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MEMOREX
2056/3056 MATRIX PRINTER
USER'S GUIDE
2056/3056.02-00

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MEMOREX
A Burroughs Company

2056/3056 Matrix Printer
User's Guide

2056/3056.02-00

WARNING

This equipment generates and uses radio frequency energy and if not used properly, i.e., in strict accordance with its operating instructions, may cause harmful interference to radio communications. It has been tested and found to comply with the limits for a Class A computing device pursuant to Subpart J of Part 15 FCC Rules, which are designed to provide reasonable protection against such interference when Class A equipment is operated in a commercial environment.

Operation of this equipment in a residential area is likely to cause interference, in which case the user, at his own expense, will be required to correct the interference.

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How to Use This Manual

This manual is designed to guide you through all of the procedures you'll need to install and operate the Memorex 2056/3056 Matrix Printers. If you are setting up your printer for the first time, be sure to read the sections in sequence. Once you are familiar with the operations of your printer, we recommend that you review the Getting Ready to Print checklist in Section 5 before you print any job to be sure that your printer is properly set up.

Here are brief descriptions of the information found in each section of the manual:

Section 1 — **Introducing the 2056 and 3056 Printers**
Introduces the features available for these printers and gives a general description of some of the feature highlights.

Section 2 — **Installing the 2056/3056 Printers**
Tells what to do when you first receive your printer. Tells how to spot signs of damage that may have occurred during shipping and how to prepare a site for your printer. Tells how to assemble the pedestal and attach the printer to it. Gives instructions for attaching the paper rack and paper accumulation shelf and basket.

Section 3 — **Connecting the 2056/3056 Printers to the System**
Tells how to attach the twinaxial cables and how to set the Terminator and Station Address switches.

Section 4 — **Guided Tour of Printer Parts**
Helps you quickly become familiar with the names and locations of the printer parts before you begin the installation process.

Section 5 — **Getting Ready to Print**
Provides a checklist to use to be sure that your printer is properly set up.

Section 6 — **How to Install and Change the Ribbon**
Tells you what ribbon to use and how to install it. It also tells you how to install the re-inker.

Section 7 — **How to Load the Paper**
Gives paper requirements and provides step-by-step procedure for loading the paper. Different procedures are given for the 2056 and 3056 printers.

Section 8 **Printer Checkout**
Explains the Matrix Printer Verification Test that is used to determine whether the system is operating correctly.

Section 9 **How to Operate the 2056/3056 Printers**
Explains the switches and lights on the operator control panel—their purpose, and how to use them.

Section 10 **What to Do if You Have a Printer Problem**
Gives a sequential question and answer routine for locating problems and provides explanations of the actions to take. Also tells you how to call your service representative.

The appendixes give you additional information that you may need to refer to from time to time.

Appendix A Gives procedures for operator maintenance and periodic cleaning to keep your printer in good working order.

Appendix B Lists printer characteristics and environmental characteristics for quick reference.

Appendix C Shows possible system configuration.

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The Memorex 2056 Matrix Printer

The Memorex 3056 Matrix Printer

Introducing the 2056 and 3056

1

This manual provides the information you will need to install and make the best use of your Memorex 2056 or 3056 Matrix Printer. (The 3056 printer is identical to the 2056 except that it has a feature to allow you to print and tear off one form at a time.) If you read this manual carefully, you'll have all of the information you need to get your 2056 or 3056 installed and working.

Printer Features

Engineered to operate with the System/34 and System/38, the 2056 and 3056 printers are fast, flexible, practical, and economical. They are functional replacements for the IBM 5256 and can be attached to the central processing unit (CPU) or to an IBM Model 12 cluster controller through a twinaxial cable.

Print Speed

A print speed of 200 characters per second with bi-directional printing allows maximum throughput. With a spacing rate of 600 characters per second and a vertical paper slew rate of 20 inches per second, these printers offer at least twice the throughput of other printers on average jobs.

Forms Variety

Up to nine-part forms from 2 inches to 16.5 inches in width (4.75 inches to 15.75 inches for the 3056) can be accommodated. Exact paper positioning is provided by a horizontal and vertical vernier adjustment.

Standard Pedestal

The 2056 and 3056 come with standard pedestals which allow for a straight paper-feed path. The printers feed paper and forms in a path directly from the stack below, through the printer, and out. The straight paper-feed path reduces paper jams, and various thicknesses of forms can be accommodated with a special print head adjustment lever.

Audible Alarm

The audible alarm, another standard feature, tells the operator when the paper supply is depleted. It also alerts users to paper-jam conditions and other errors in the system. Volume of the audible alarm is adjustable.

Compressed Printing

The compressed printing feature makes it possible to print a maximum of 132 characters within an eight-inch space. Because you can use smaller forms or print more information on existing forms, this feature can bring you significant savings. A front panel switch allows you to select the standard 10 characters per inch or the compressed 16.5 characters per inch.

Automatic Re-inking

A 75-yard nylon ribbon cartridge snaps in and out for easy ribbon changing, and an inkwell for automatic re-inking keeps the print dark throughout the life of the ribbon. The ribbon's longer length, combined with automatic re-inking, results in fewer ribbon changes and consistently readable print.

Underlining Capability

An underlining capability, provided by a ninth pin on the print head, makes it possible to underline both lower case and special characters without interfering with the descenders.

Cable-through

Cable-through allows additional display stations or printers to be attached through the 2056 and 3056 (daisy-chain style) with the first terminal attached directly to the central processing unit or workstation controller by way of a twinaxial cable.

Additional 3056 Features

In addition to the standard features for the 2056 and 3056 listed above, the 3056 features a metal tear-off bar located immediately above the print line. This rigid bar can be adjusted from one and one-half inches to less than one-half inch above the print line. This feature allows you to remove a form with up to 9-part forms immediately after printing, leaving the next form in position with the print head at the top of the form, ready to print. Dead space on in-between forms and waste caused by advancing the forms for access to previously printed forms are thus eliminated. A second set of paper handling tractors is located below the print head.

Installing the 2056/3056 Printers

2

This section describes the installation and setup of the Memorex 2056/3056 Matrix Printers. Section 8 explains the checkout procedure for the printers.

NOTE

Notify your service representative any time you plan to move the printer to a new location.

Check the Printer for Shipping Damage

1. Before opening the carton, inspect for external damage to the shipping carton. If damage is evident, arrange for the carrier's representative to be present when you open the carton.

2. Following the Unpacking Instructions, remove the contents from the carton and check them for shipping damage. Look for dents, scratches, cracks, broken switches, or other broken parts. Listen for rattles as you move the printer around. (Because the printer weighs 37.3 kg [75 lbs.], two people should always lift it or move it.) If you find any signs of damage to the printer or its accessories, notify the delivery company immediately.

CAUTION

Any attempt to operate a damaged printer may cause further damage and can void the warranty.

Pre-Installation Check

To install the printer properly, make sure that you have all of the following items available:

1. Suitable Operating Area

   Before unpacking the printer arrange for an appropriate area for it. The minimum floor area required to properly operate the printer is one meter square (three feet square) to provide access to each side of the terminal and for access to the paper accumulation shelf at the rear of the printer.

2. Power Supply

   The domestic 2056/3056 printers are operated from a grounded input of 117 V ac ±10%, single phase, 60 Hz.

   The power source should be within 3.36 meters (11 feet) of the printer. The input power must provide the correct voltage, current, and frequency specified on the manufacturer's nameplate. The power must be properly grounded in accordance with recognized safety practices and must be located close enough to the terminal to permit direct connection of the terminal power cable.

   In addition to personal safety considerations, an improperly grounded power source can cause erroneous equipment operation and can result in damage to the equipment.

   Using a power circuit on which other devices are attached can cause chronic low voltage and introduce "noise." In addition, start up of other equipment on the same power line can result in voltage fluctuations. These unstable voltage conditions can cause the printer to turn off during operation.

3. Twinaxial Cable

   You will need to supply your own twinaxial cable (Belden 9207). Details about this cable can be coordinated with your immediate supervisor. You should have a building maintenance person coordinate the routing of the cable with the system operator or data processing manager.

What to Do to Install the 2056/3056 Printers

Perform the following steps to install your printer. As you finish each step, put a check ✓ in the ☐ . This will help you find your place again if you are interrupted during installation.

You will need a flat blade screwdriver to prepare the printer for use and a pen or pencil to check off the steps.

☐ 1. Use the flat blade screwdriver to unscrew the two screws that retain the front panel on the pedestal (Figure 2-1). Tip the panel outward and lift it off.

☐ 2. Remove the rear panel on the pedestal in the same manner as described in Step 1 (Figure 2-2).

☐ 3. Lift the taped-down envelope from the bottom plate of the pedestal. Open and remove the printer mounting hardware. Save the envelope.

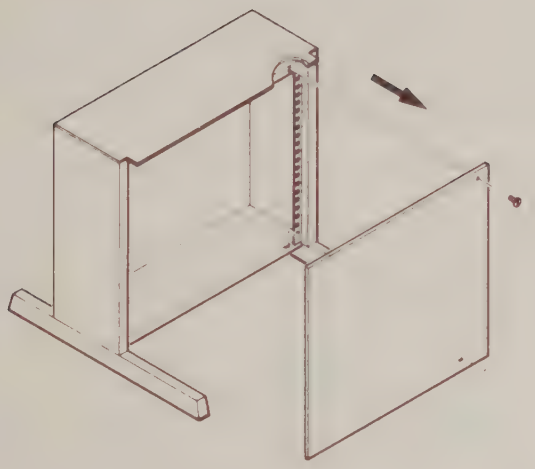


Figure 2-1. Removing Front Panel from Pedestal

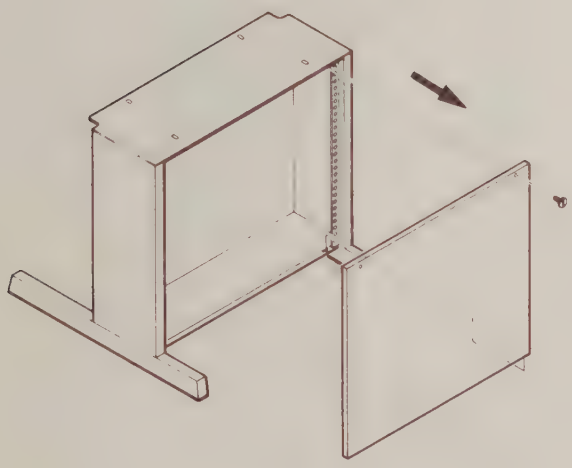


Figure 2-2. Removing Rear Panel from Pedestal

☐ 4. Using two people, set the printer on top of the pedestal with the terminal control panel facing in the same direction as the longer extension of the pedestal feet.

WARNING

The printer weighs 37.3 kg (75 lbs.). To avoid possibility of strain, two people should handle this move.

☐ 5. Move the terminal forward on the pedestal and insert the two 1/4 inch x 20 x 3/8 screws, lockwashers, and flat washers through the pedestal top-plate rear-mounting holes and screw them into the threaded mounting holes on the printer (Figure 2-3).

NOTE

Be sure to place the star washer next to the painted surface of the pedestal.

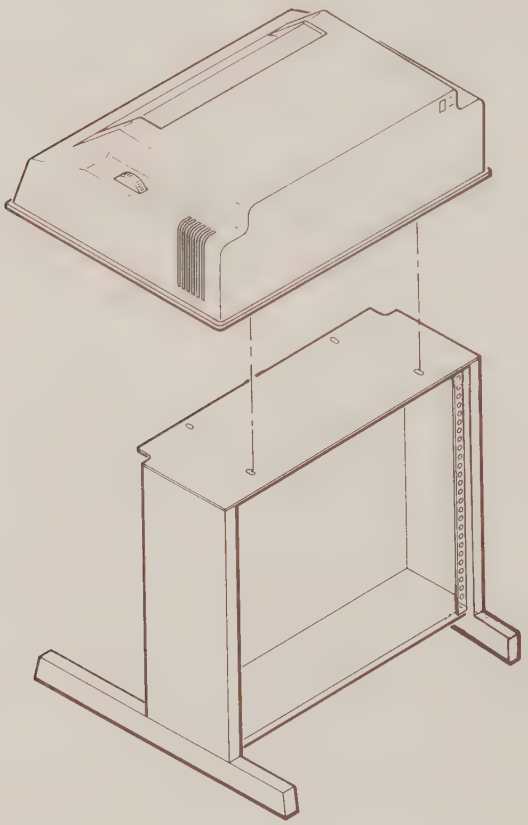


Figure 2-3. Attaching Rear of Printer to Pedestal

☐ 6. Insert the two front-mounting screws, lockwashers, and flat washers through the front-mounting holes of the pedestal top plate and screw them into the threaded holes in the bottom of the printer (Figure 2-4). Tighten all mounting screws.

NOTE

Be sure to place the starwasher next to the painted surface of the pedestal.

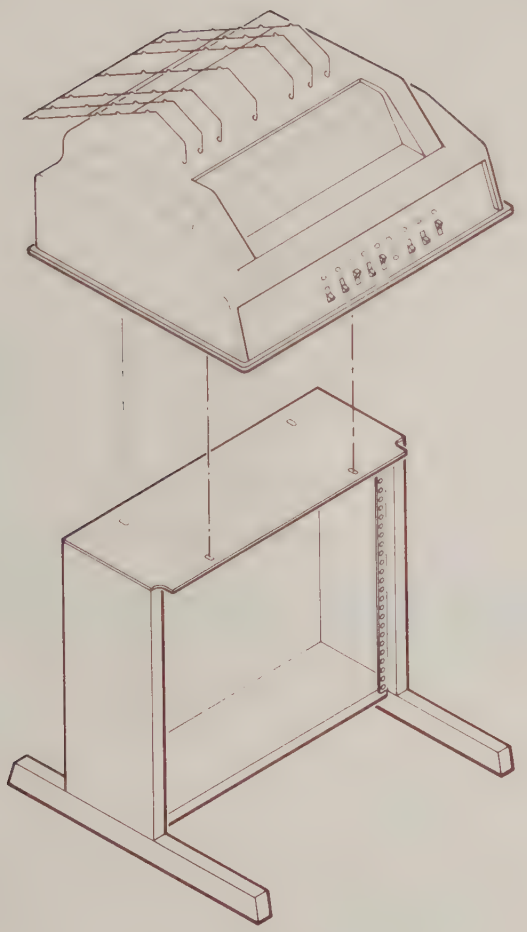


Figure 2-4. Attaching Front of Printer to Pedestal

☐ 7. Place the two top-cover shipping screws and washers into the brown envelope and tape the envelope to the pedestal bottom plate.

☐ 8. Set the pedestal front panel on the bottom-mounting studs and push the panel against the pedestal frame (Figure 2-5).

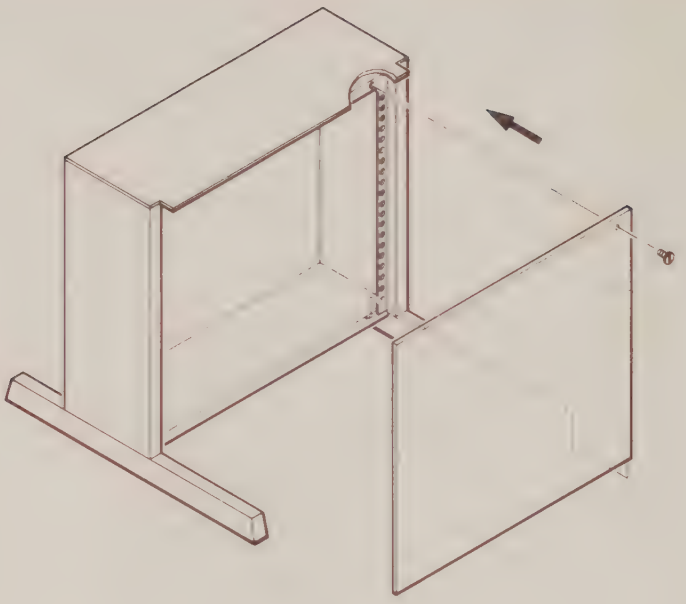


Figure 2-5. Attaching Pedestal Front Panel

☐ 9. Tighten the panel screws that you loosened in Step 1. Insert the miniature phone jack onto the front low-paper sensor receptacle (Figure 2-6).

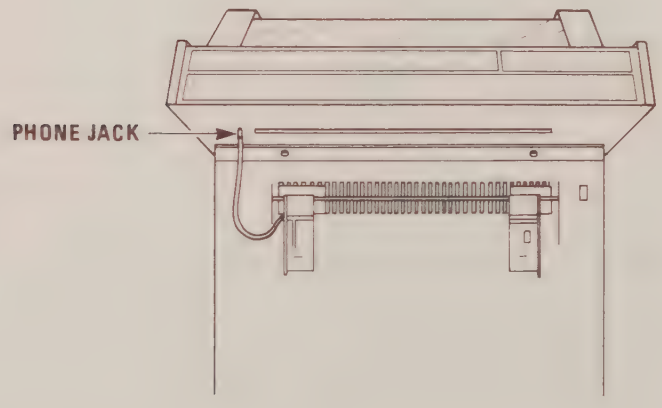


Figure 2-6. Phone Jack Inserted

☐ 10. Install the paper rack on the printer top cover by snapping it over the available mounting posts (Figure 2-7).

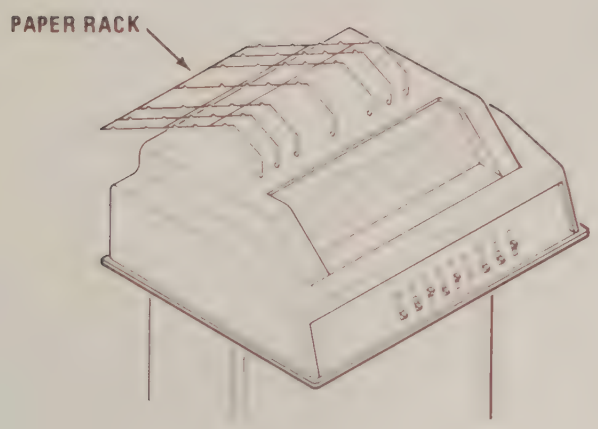


Figure 2-7. Paper Rack

☐ 11. Install the paper accumulaton shelf on the rear of the printer by snapping it over the available mounting posts on the sides of the printer pedestal. Set the paper accumulation basket on the paper accumulation shelf (Figure 2-8).

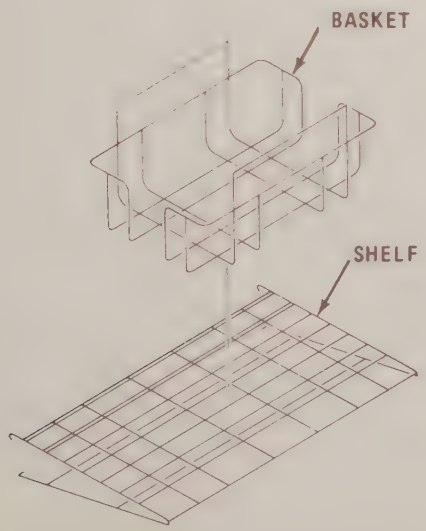


Figure 2-8. Paper Accumulation Shelf and Basket

Connecting the 2056/3056 Printers to the System

3

Using a pen or pencil, check off the following steps as you connect the printer to the system.

NOTE

Before making any system attachments, check with your supervisor or system operator to make sure it is okay to attach your printer to the system.

☐ 1. Check to be sure that the printer is unplugged.

☐ 2. Be sure that you have the following items: (a) one twinaxial cable or two cables if the cable-through feature is being used; (b) the assigned device address for your printer; and (c) the assigned terminator switch setting.

☐ 3. Raise the printer cover to locate the cable-through box (Figure 3-1).

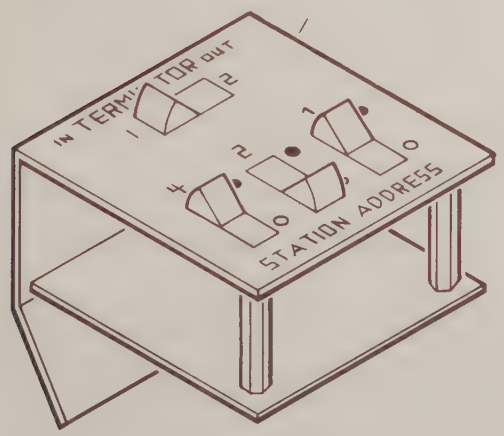


Figure 3-1. Cable-through Box

☐ 4. Connect the twinaxial cable from the data source to the IN connector on the cable-through box (Figure 3-2). Line up the widest slot in the cable connector with the key in the connector socket. Push the cable connector into the socket. Then turn the sleeve of the cable connector in a clockwise direction until the connection is tight.

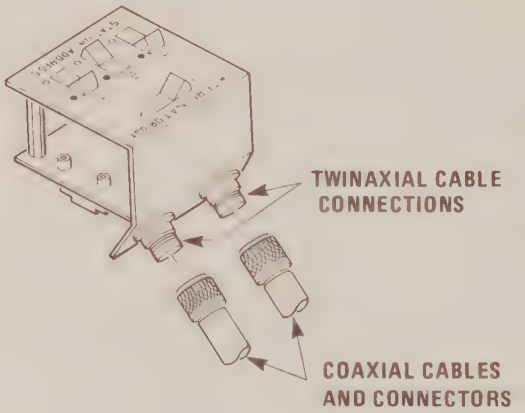


Figure 3-2. Attaching the Twinaxial Cables

☐ 5. Locate the TERMINATOR switch on top of the cable-through box (Figure 3-3). If the printer is the only device (or the last device) to be connected to the data source, no cable will be connected to the OUT connector. In this case, set the TERMINATOR switch to position 1.

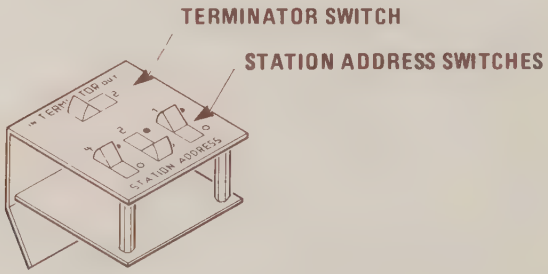


Figure 3-3. Terminator Switch

☐ 6. If another device is to be connected in series with the printer, connect the twinaxial cable going to the next device to the OUT connector on the cable-through box, following the same procedure used when connecting the first cable. In this case, set the TERMINATOR switch to position 2.

☐ 7. Locate the three STATION ADDRESS switches (4), (2), and (1). When a switch is positioned toward the solid dot (with the top portion pushed in), it is ON. Each device address is made up of a combination of these three switches. The assigned address will be a number between zero and six. In Figure 3-4, you can see that the address is "3" because the

switch labeled "4" is off and the switches labeled "2" and "1" are ON. Use the table in Figure 3-5 to determine the correct settings for the address of your terminal and set the switches accordingly. Once they have been set, these switches should not be changed without the approval of your system operator. **Station address "7" is invalid.**

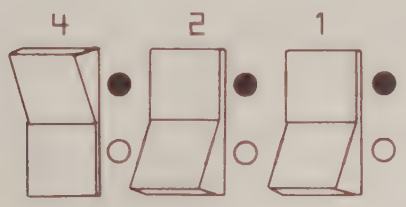


Figure 3-4. Station Address Switches

ADDRESS	SWITCH NUMBER		
	4	2	1
0	○	○	○
1	○	○	●
2	○	●	○
3	○	●	●
4	●	○	○
5	●	○	●
6	●	●	○
7	INVALID		

Figure 3-5. Station Address Switch Settings

Guided Tour of Printer Parts

4

This guided tour is provided to help you become familiar with the names and locations of the various parts and controls of the 2056/3056 printers.

Notice that the illustrations in this guided tour show the paper and ribbon cartridge already installed. You will learn how to install the ribbon cartridge and load the paper in Section 6 and Section 7.

1. Stand in front of the printer. Using Figure 4-1, locate the following parts of your printer:

   Ⓐ Acoustic Cover

   Ⓑ Operator Control Panel

   Ⓒ Indicator Lights

   Ⓓ Control Switches

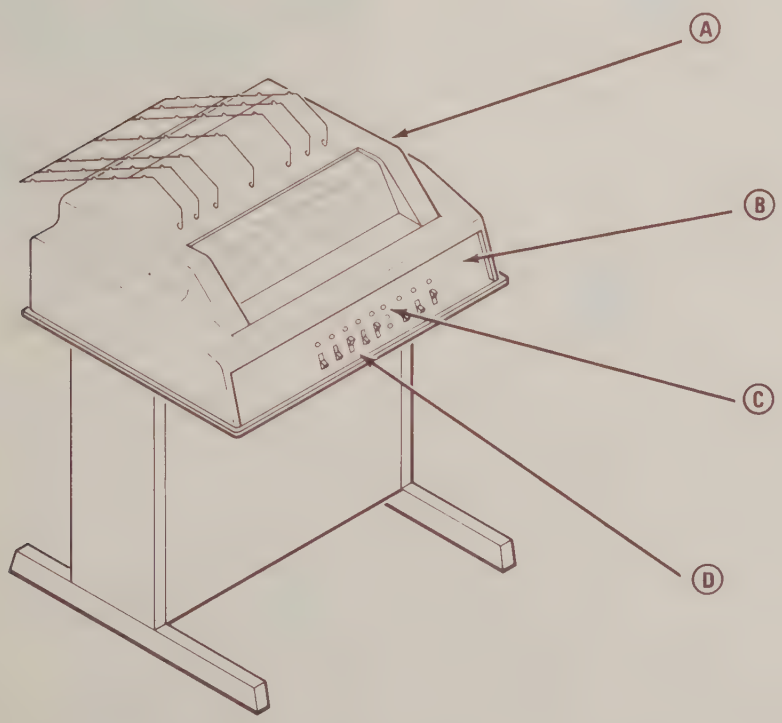


Figure 4-1. Front View of the 2056/3056 Printer

2. Look at the back of the printer by either walking around to the back or by turning the printer around. Use Figure 4-2 as a guide and locate the following parts of the printer:

   Ⓐ AC Power Switch

   Ⓑ Power Cord

   Ⓒ Paper Accumulation Basket

   Ⓓ Paper Accumulation Shelf

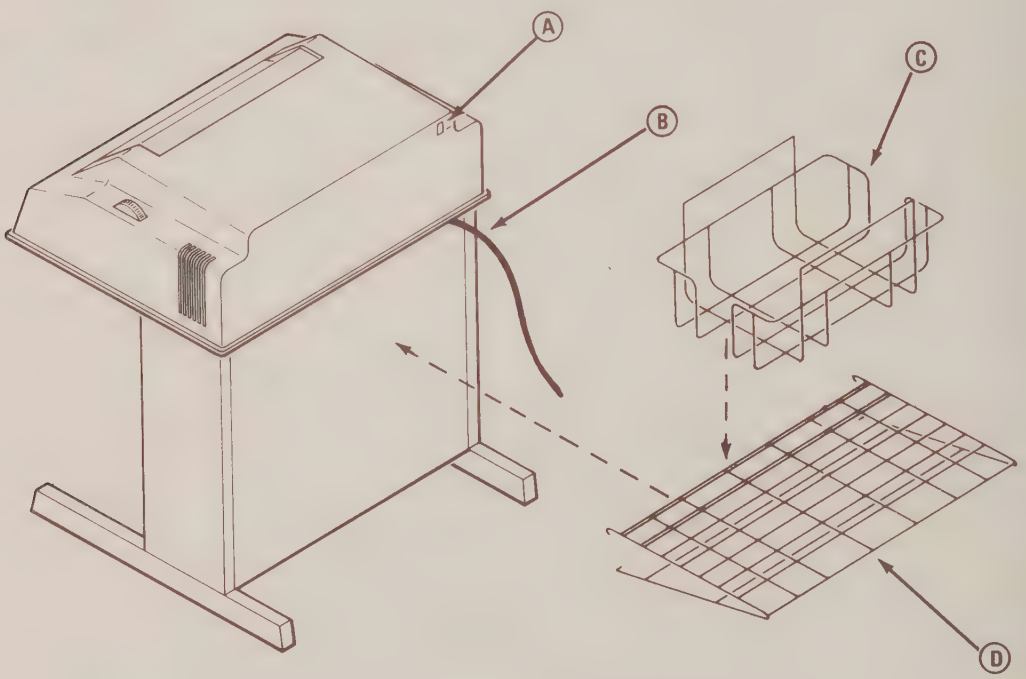


Figure 4-2. Rear View of Printer

3. Lift the acoustic cover by pressing your palms against each side of the cover and lifting upward. Use Figure 4-3 if you have a 2056 and Figure 4-4 if you have a 3056 to locate the following parts of the printer:

Ⓐ Tractor Assembly

Ⓑ Manual Paper Advance Knob

Ⓒ Ribbon Cartridge

Ⓓ Forms Thickness Adjustment

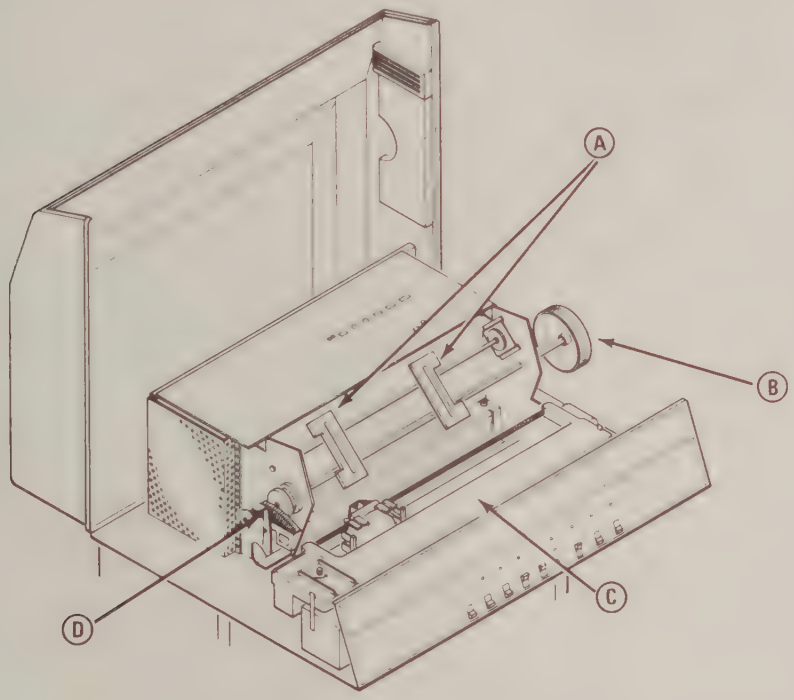


Figure 4-3. 2056 Printer With Cover Raised

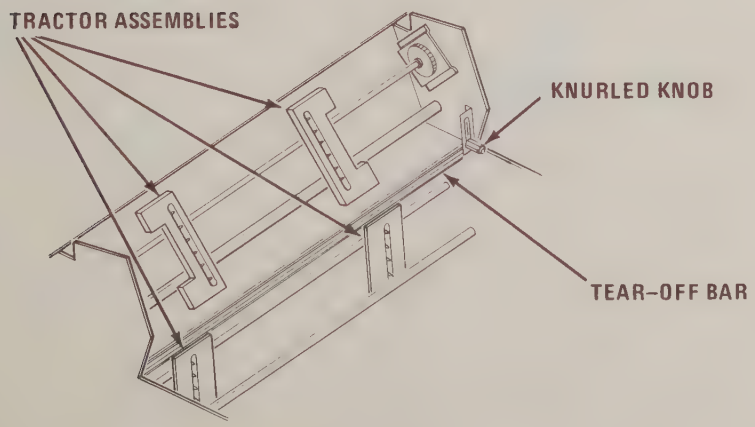


Figure 4-4. 3056 Paper Handling Controls

4. Continue your tour by identifying the parts and controls inside your printer. Use Figure 4-5 as a guide.

Ⓐ Cable-through Box*
Ⓑ Paper Tractor Cover
Ⓒ Unlatching Lever
Ⓓ Margin Adjustment
Ⓔ Manual Paper Advance
Ⓕ Printhead
Ⓖ Printhead Nozzle
Ⓗ Ribbon Cartridge
Ⓘ Forms Thickness Adjustment
Ⓙ Volume Control*
Ⓚ Low Paper Sensor*
Ⓛ RUN/LOAD Lever

* Not visible in illustration

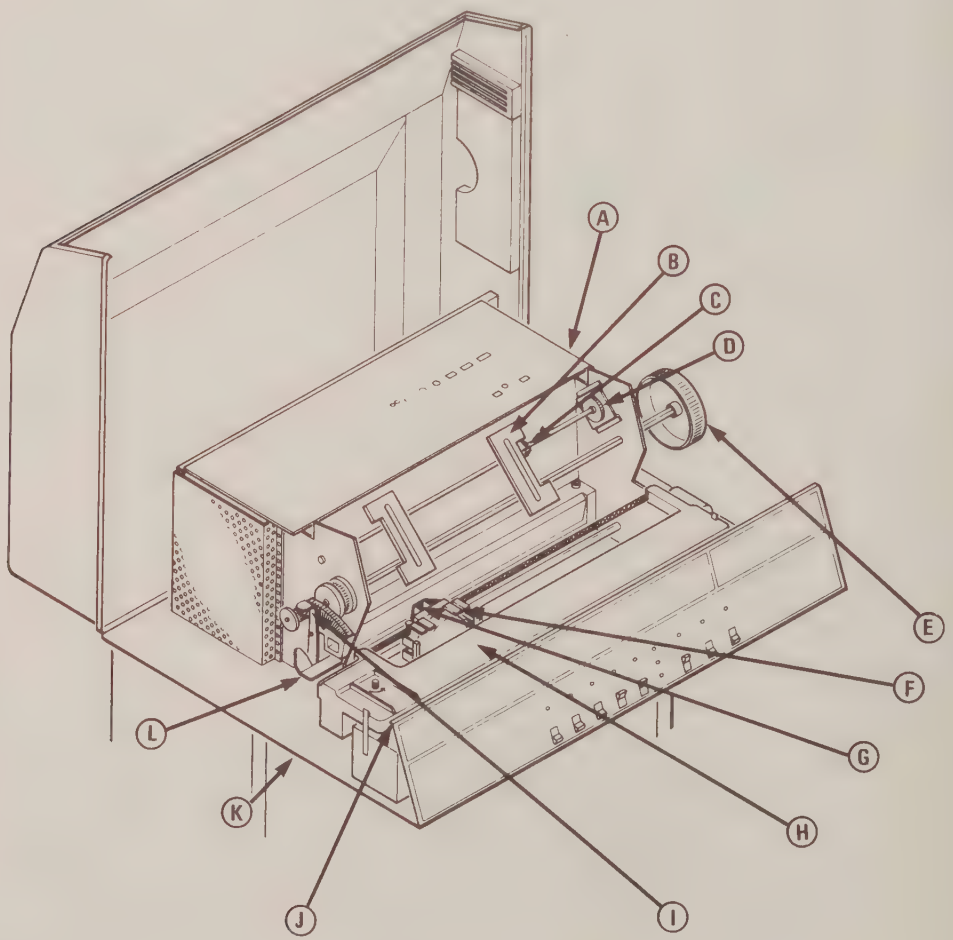


Figure 4-5. Parts and Controls Inside the 2056

5. Locate the Auxiliary Control Panel beneath the printer's top cover (Figure 4-6). The only control on this panel that is functional at this time is the TEST switch, which has three settings: INTERFACE, NORMAL, and PRINTER. (NOTE: This switch must be on NORMAL setting before the printer ON/OFF switch is turned on.)

Figure 4-6. Auxiliary Control Panel

Getting Ready to Print 5

Follow the procedures in this section to get your printer ready to print. The Pre-Print Checklist is composed of questions you should ask yourself before you print any job. If you answer NO to any of the questions, turn to the section of the manual that describes the procedure you need to perform and follow it step by step.

Pre-Print Checklist

1. Is the printer power cord plugged securely into a power outlet?

2. Is a good, well-inked ribbon cartridge installed? See Section 6.

3. Is the paper or multipart form loaded properly for the job you are going to perform? See Section 7.

4. Do you have enough paper for the job you are going to perform? See Section 7.

5. Is the POWER switch on? See Section 8 before turning on this switch.

6. Are the twinaxial cables or cable securely connected to the printer? See Section 3.

7. Does the print head move freely?

   The print head should move freely from one side of the printer to the other. Before operating the printer, you can check the print head movement by performing the following steps:

   a. Turn the power switch to OFF.

   b. Grasp the print head as shown in Figure 5-1 and move it back and forth.

   c. As you move the print head back and forth, it should move freely and smoothly. If it does not, do not attempt to operate the printer. A light deposit of black carbon on the rails is normal and should not be removed unless carriage motion is restricted. If motion is restricted, clean the area with a soft cloth. If the print head still will not move, fill out a report and call your service representative. If the print head moves freely, continue your procedures.

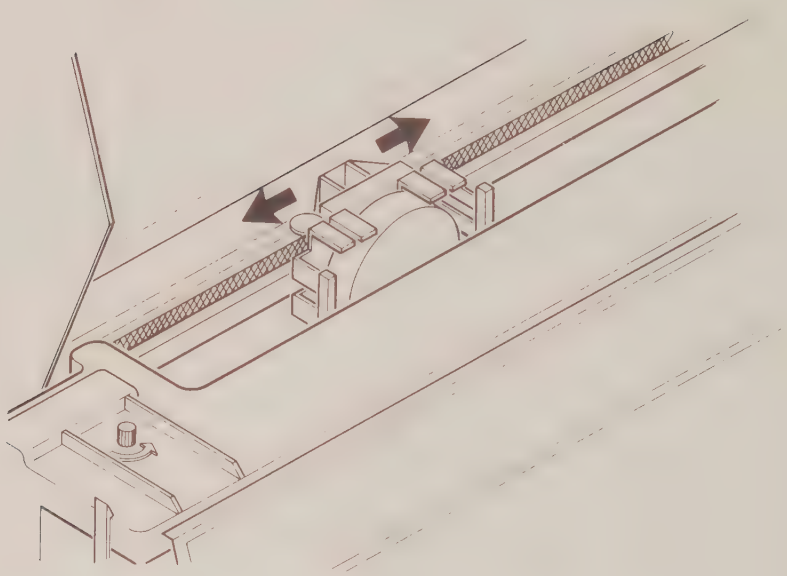


Figure 5-1. Moving the Print Head

How to Install and Change the Ribbon

6

The 2056 and 3056 Matrix Printers use a 75-yard nylon ribbon cartridge that snaps in and out for easy installation. An inkwell automatically re-inks the ribbon to keep the print dark throughout the life of the ribbon.

Installing the Ribbon Cartridge

The ribbon cartridge and re-inker were not installed before the printer was shipped. This section tells you how to load the ribbon cartridge and re-inker. Perform the following steps:

1. Turn off the power switch and open the printer

2. Move the print head to the center of the printer.

   If a cartridge has already been installed, remove it according to the following procedure. Otherwise, go to step 4.

   a. Snap the re-inker out of the cartridge and screw the cap onto it.

   b. Be sure the RUN/LOAD lever is in the LOAD position (Figure 6-1).

   c. Remove the ink ribbon from the print head rollers.

   d. With your thumbs push out on the two latches that hold the cartridge and pull straight up on the cartridge to clear the terminal frame.

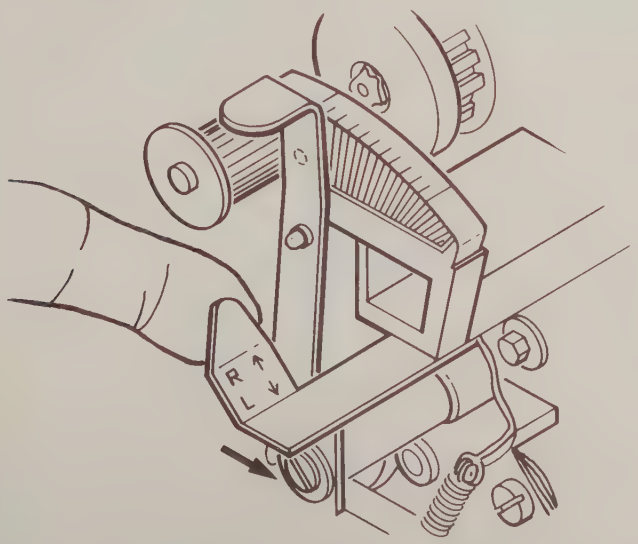


Figure 6-1. LOAD Position

3. Install the ink ribbon cartridge according to the following procedure:

   a. Remove the ribbon retaining comb from the cartridge (Figure 6-2).

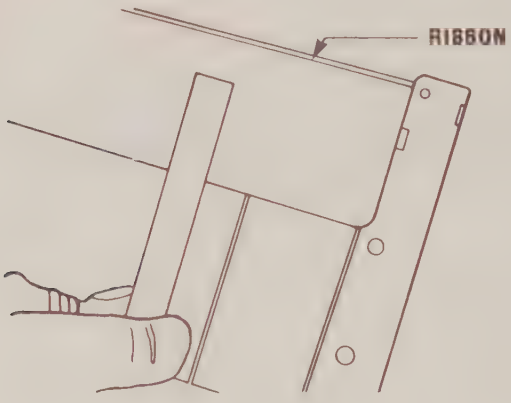


Figure 6-2. Removing Retaining Comb

   b. Fit the re-inker cap into the removal socket wrench molded into the bottom of the ink ribbon cartridge. Turn the re-inker to loosen the cap, and then completely remove it (Figure 6-3). RETAIN THE RE-INKER CAP.

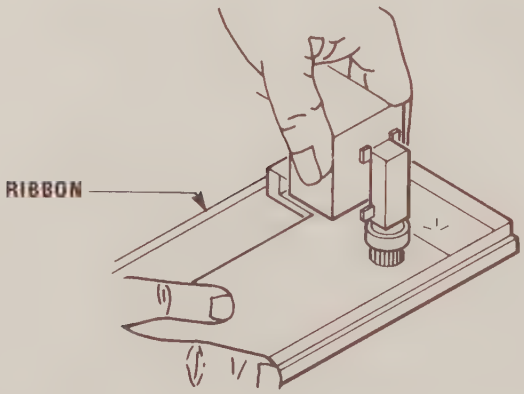


Figure 6-3. Removing the Re-inker Cap

   c. Position the cartridge over the locator tabs on the terminal frame, hold the snaps aside to clear the cartridge, and center it on the drive spline. Press the cartridge down in place so that the keepers snap shut over the cartridge (Figure 6-4).

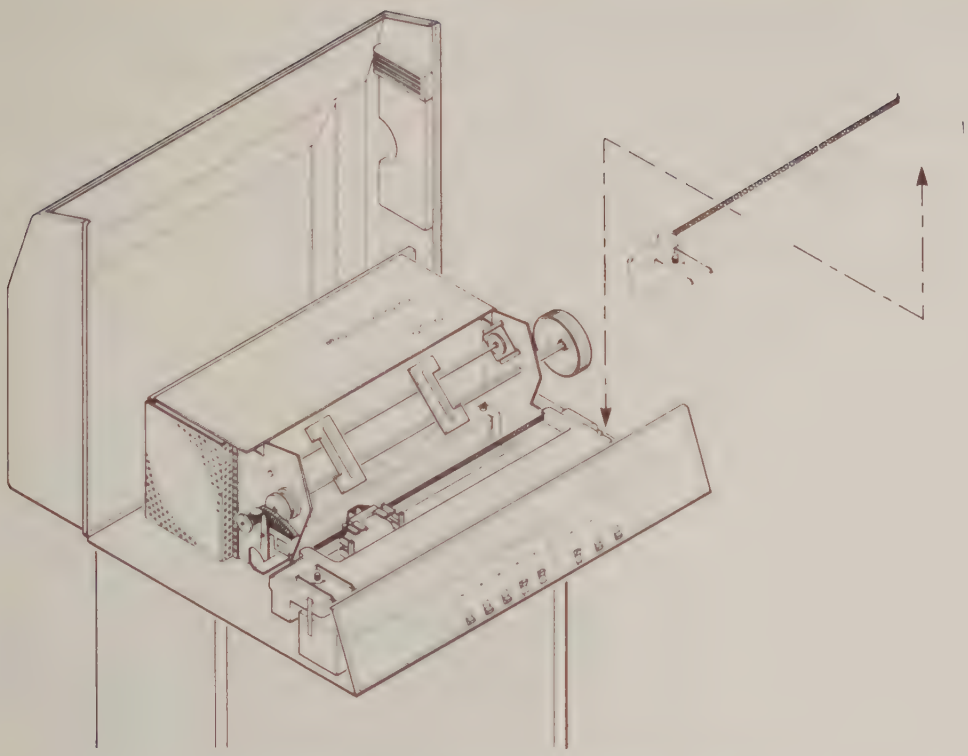


Figure 6-4. Installing the Ribbon Cartridge

NOTE

It may be necessary to rotate the cartridge knob to allow the ribbon cartridge to seat properly on the ribbon motor drive spline.

d. Pull some slack in the ink ribbon and route it between the print head nozzle and the thin metal nozzle shield, through the print head rollers, and behind the pointer. See Figure 6-5.

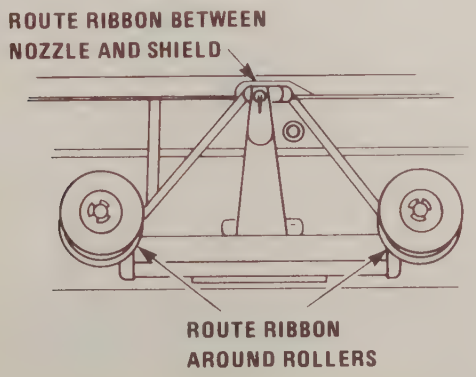


Figure 6-5. Threading the Ribbon

e. Seat the cartridge in place and rotate the cartridge knob counterclockwise to insure drive engagement (Figure 6-6).

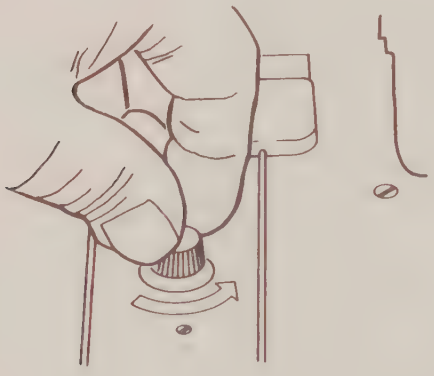


Figure 6-6. Rotating the Cartridge Knob

CAUTION

Do not place the re-inker on a new cartridge. When density of print indicates that ink content of ribbon is becomng exhausted, install the re-inker and the print will darken. You may leave the re-inker in place or remove it and re-cap it securely. If you remove it, the re-inker can be stored under the cover on the left side of the printer until re-inking is again required.

NOTE: To avoid spilling ink, do not leave the re-inker loaded in the the ribbon cartridge if the printer is to be moved to another location.

f. Set the RUN/LOAD lever to the RUN position (Figure 6-7).

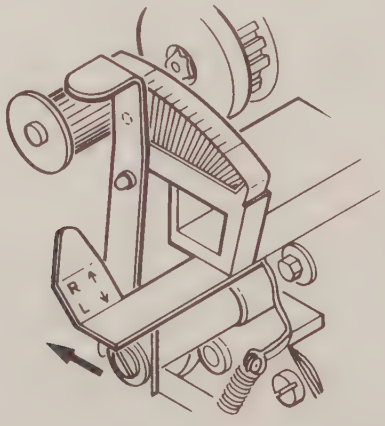


Figure 6-7. Setting the RUN/LOAD Lever

g. Insert the re-inker into the channel of the ink ribbon cartridge and snap it into place (Figure 6-8).

WARNING

Never tamper with the re-inker or attempt to use a different kind of ink. Serious damage to the printer can result.

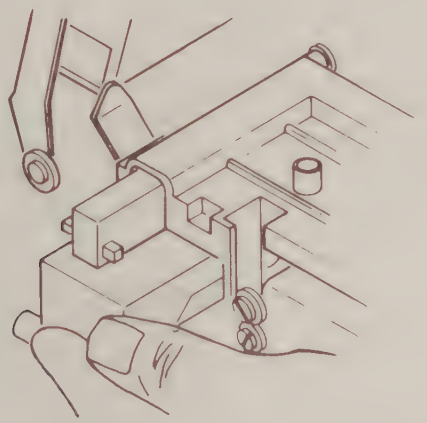


Figure 6-8. Inserting the Re-inker

h. Again rotate the cartridge drive knob counterclockwise to remove any slack in the ink ribbon (Figure 6-9).

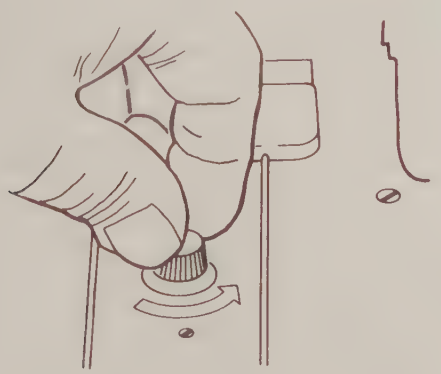


Figure 6-9. Rotating the Cartridge Drive Knob

The ribbon should now be ready to print.

How to Load the Paper 7

NOTE

Instructions for loading paper in the 3056 Forms Access Printer can be found at the end of this section.

Install the paper in the printer using the following procedures and illustrations.

CAUTION

Operating the printer without paper installed will result in damage to the print head.

Paper Requirements

The 2056/3056 printers use continuous, fanfold, sprocket-feed paper. The 2056 can handle standard form sets of up to nine parts and from 5.08 cm (2.0 inches) to 41.9 cm (16.5 inches) wide. The lower tractors of the 3056 will accommodate paper widths of 12.07 cm (4.75 inches) to 40.00 cm (15.75 inches). Maximum form thickness allowed is .064 cm (.025 inches). Some non-standard, nine-part form sets can also be accommodated; **however, all non-standard form sets should be evaluated for correct operation before being placed in service.** Note that Memorex does not offer printer paper or forms for sale.

Recommended paper weights are:

No. of Parts	Paper Weight
1	15 lb. (55gm/m^2)
2, 3 or 4	13.5 lb. (50gm/m^2), 8 lb. carbon (30gm/m^2)
6 to 9	12 lb. (45gm/m^2), 8 lb. carbon (30gm/m^2)

Paper Handling Controls for the 2056

Before you load paper into the printer, you should be familiar with the controls associated with the handling of the paper. If you are installing paper for the first time, locate each control as shown in Figure 7-1 before you continue.

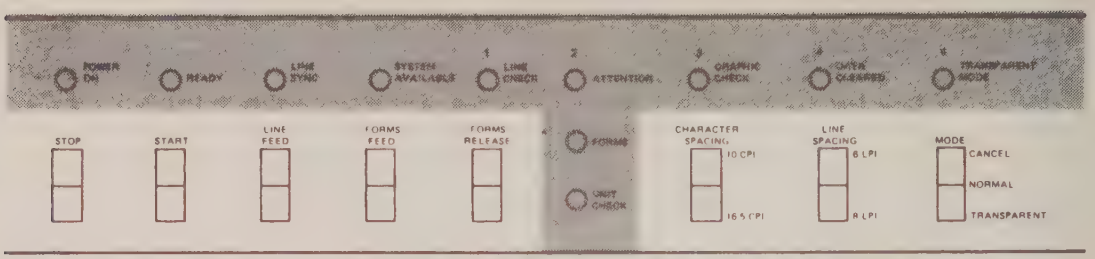


Figure 7-1. Printer Controls

How to Load the Paper for the 2056

☐ 1. Raise the cover on the printer by pulling upward evenly at both the right and left front edges of the cover (Figure 7-2).

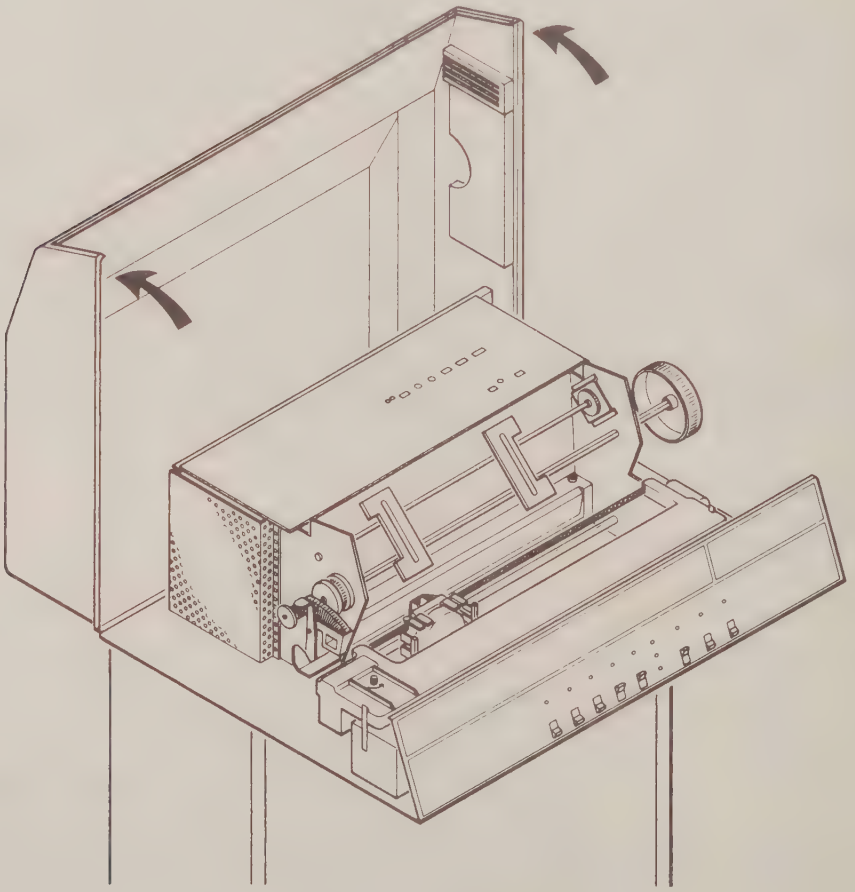


Figure 7-2. Raising the Printer Cover

☐ 2. Set the paper RUN/LOAD lever to the LOAD position (Figure 7-3).

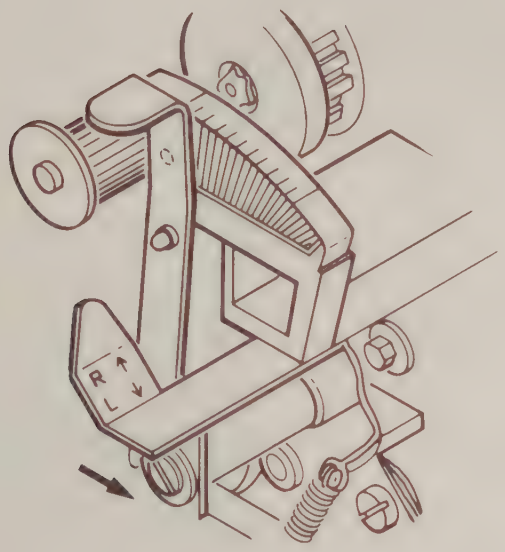


Figure 7-3. Setting the RUN/LOAD Lever

☐ 3. Insert the paper in the paper slot at the bottom front of the printer (Figure 7-4).

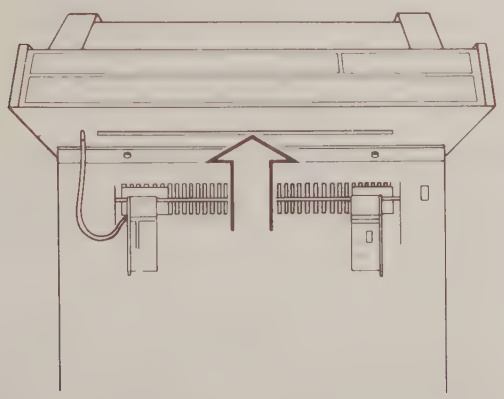


Figure 7-4. Paper Slot

NOTE

Paper is normally inserted at the front on the pedestal-mounted printer. Paper can optionally be inserted at the rear; however, multipart forms and heavy paper should always be loaded from the front. Figure 7-5 shows the paper path for front loading and rear loading.

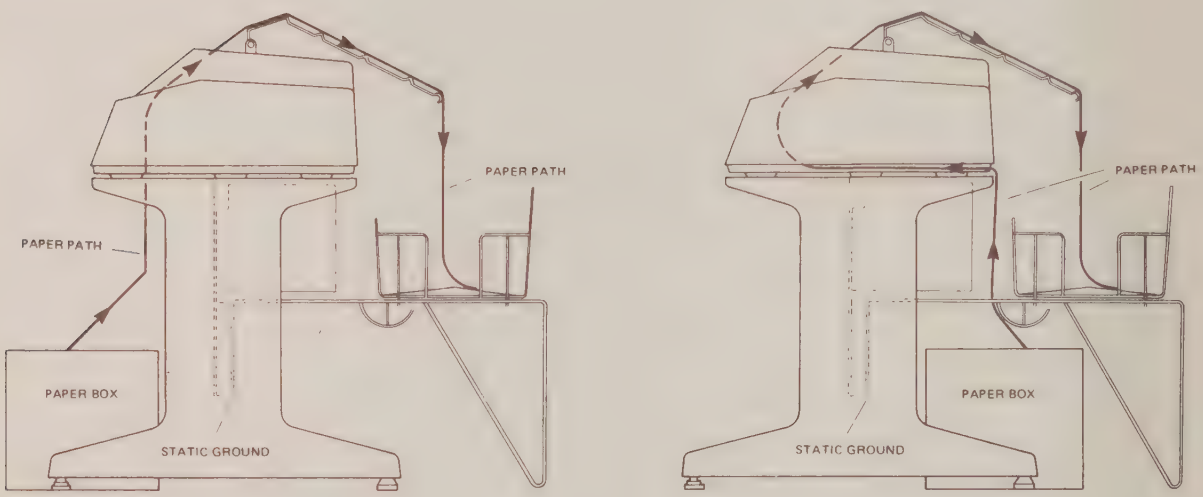


Figure 7-5. Paper Loading Path

CAUTION

When loading paper into the printer, take the following precautions:

- Align the paper supply box to insure a straight flow of paper into the printer.
- Remove any box flaps that can inhibit a free flow of the paper supply.
- When using rear paper feeding, prevent the paper exiting from the printer from falling into the paper supply box by being sure that it feeds into the paper accumulation basket.

☐ 4. Open the paper tractor covers and unlock the right tractor assembly by pushing down on the unlatching lever (Figure 7-6).

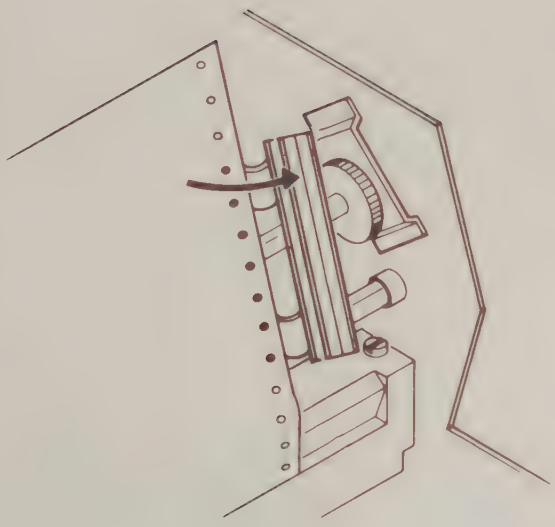


Figure 7-6. Opening the Tractor Cover

☐ 5. Align the paper pin feed holes over the left tractor pins and close the tractor cover (Figure 7-7).

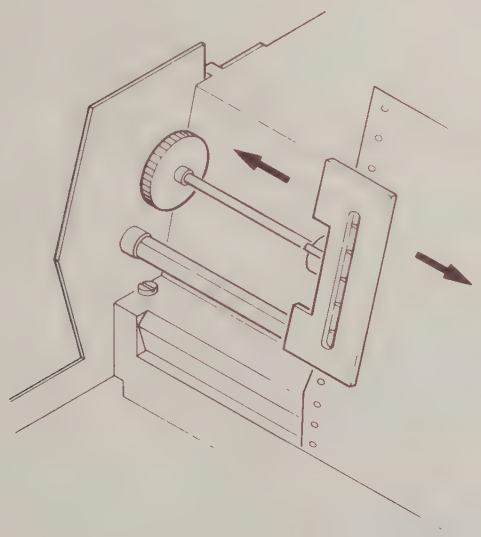


Figure 7-7. Aligning the Left Tractor Position

☐ 6. Adjust the right tractor position to fit the width of the paper being used. Align the paper pin feed holes over the right tractor pins and close the tractor cover (Figure 7-8).

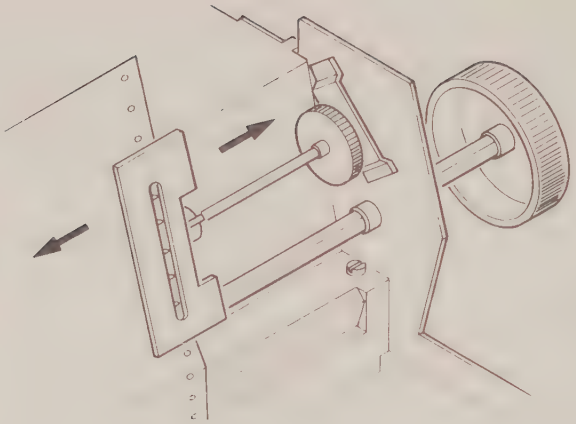


Figure 7-8. Aligning the Right Tractor Position

☐ 7. Lock the right tractor assembly (Figure 7-9).

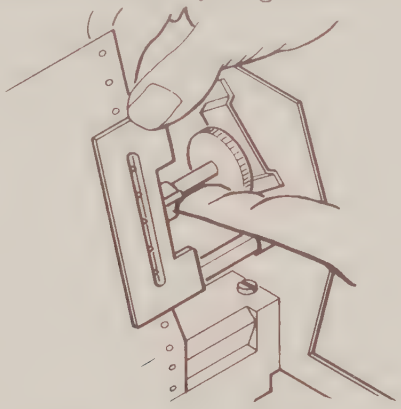


Figure 7-9. Locking the Right Tractor Assembly

NOTE

Vertical position of the paper or printed form is provided by the positioning notches in the tractor covers. If the paper or printed form is installed in the tractors so that the top edge is even with the vertical positioning notches in the tractor covers, the bottom of the first printed line will occur three inches (7.62 cm) down from the top of the form. This distance translates to 18 printed lines when the printer is set for six lines per inch printing and 24 print lines when the printer is set for eight lines per inch printing.

☐ 8. Return the paper RUN/LOAD lever to the RUN position.

☐ 9. Position the paper with the VERNIER MARGIN ADJUST control. This control adjusts both tractors to the right or left until the pointer at the left of the print head nozzle points to the desired first-character printing position (Figure 7-10).

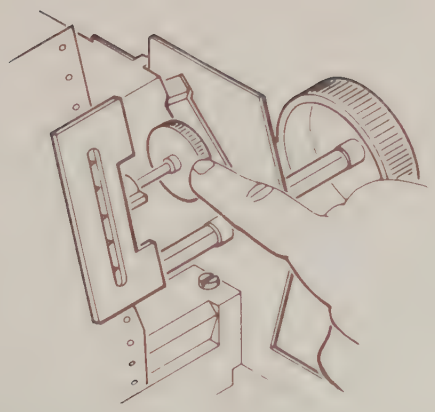


Figure 7-10. LEFT MARGIN ADJUST Control

☐ 10. Turn the MANUAL PAPER ADVANCE knob to place the top of form position in front of the print head (Figure 7-11). Note that the transparent acoustic shield provides a paper tear-off edge.

NOTE

If the printer is turned on, the forms release switch must be pressed and held to position the paper in the desired location.

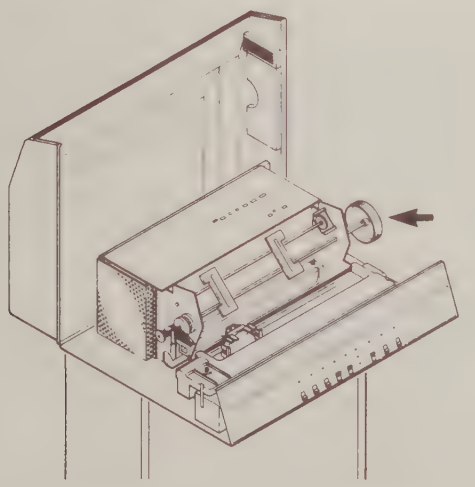


Figure 7-11. MANUAL PAPER ADVANCE Knob

CAUTION

Be sure that the top of form is located on the line in front of the print head nozzle. If the paper has not been loaded properly, when the paper is depleted, the printer may continue to print up to 30 lines without paper between the print head and the striker bar.

☐ 11. Insure that a well-inked ribbon cartridge is properly installed in the printer (See Section 6).

Locating Top of Form

To be sure that the top of the form is in the proper position for printing, perform the following procedure:

☐ 1. If the printer is printing a job, press the STOP button; otherwise, proceed to the next step.

☐ 2. Press the FORMS FEED button.

☐ 3. Press and hold the FORMS RELEASE button while manually advancing the paper until the form being used is located with the first line under the print head print nozzle.

☐ 4. Release the FORMS RELEASE button. The physical and logical location of the top of the form for sensing that the paper low condition has been coordinated.

☐ 5. If the job in progress is to be continued, press the START button.

Forms Thickness Adjustment

CAUTION

It is important that the FORMS THICKNESS adjustment lever be set initially to match the number of copies you want to print. This lever should not be moved more than three clicks away from this setting when you adjust for a darker or lighter printout. Damage to the printer can occur if it is operated with an excessive gap between the nozzle and the paper. You must also be careful not to set too close a gap because this will cause improper ribbon operation and ink streaking.

(An obvious indication that the print head nozzle is too close to the paper is that, while you are printing, slack develops in the ribbon to the right or left of the print head, depending on which way the print head is moving. If you observe this slack in the ribbon, quickly move the adjustment lever to a higher number.)

The numbers on the FORMS THICKNESS adjustment are meant to serve as a guide for forms thickness settings. They provide a close approximation of the proper settings. Use these numbers for your initial settings. A final setting can be determined by using the following procedure:

1. Raise the printer cover and set the FORMS THICKNESS ADJUSTMENT lever to the exact forms count (1-9) for the job you are running (Figure 7-12).

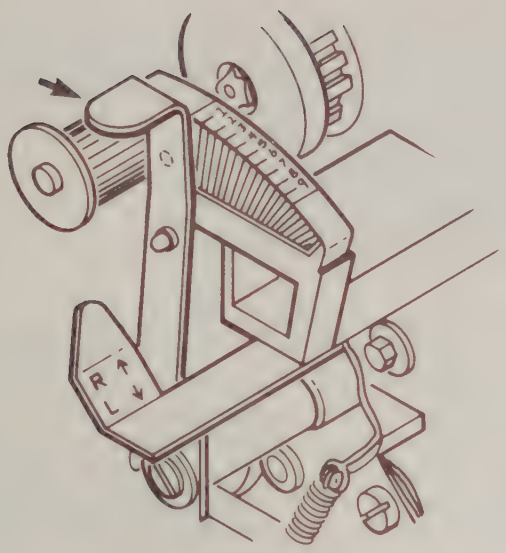


Figure 7-12. Forms Thickness Adjustment

2. On the Auxiliary Control Panel (Figure 7-13), check to see that the TEST switch is set to NORMAL. Turn the power on.

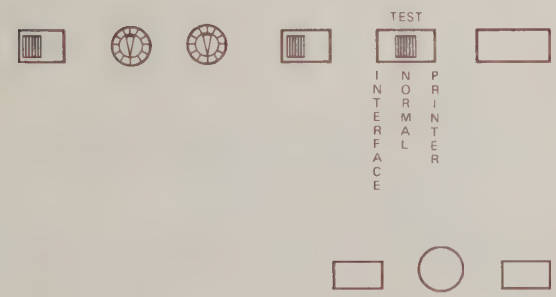


Figure 7-13. Test Switch Set to Normal

3. Be sure a paper fold is not in front of the print-head nozzle.

4. Set the auxiliary control panel TEST switch to the PRINTER position.

5. Press the front panel START switch. If necessary, move the FORMS THICKNESS ADJUSTMENT lever toward the next lower number setting for darker print, or toward the next higher number setting for lighter print.

CAUTION

Do not adjust more than three clicks of the forms adjustment lever away fron the number of copies to be printed. Damage to the print head and ribbon may result.

6. Press the front panel STOP switch. Compare the final lever setting with the label indication. If a significant difference is noted, pencil a line on the label at the proper setting for most desirable printing. The penciled line can serve as an adjustment guide. If the final setting matches the label indication, the label number can serve as the proper reference. Throughout the life of the print head and if the print head is replaced, the FORMS THICKNESS ADJUSTMENT lever settings should be re-evaluated. If necessary, new settings can be marked.

7. Return the auxiliary control panel TEST switch to the NORMAL position.

How to Load the Paper for the 3056 Forms Access Printer

The Memorex 3056 Forms Access Printer is identical to the 2056 printer except that it has a second set of paper handling tractors located below the print head. These tractors are driven by the same paper-moving servo motor that drives the upper tractors.

Selecting the Right Paper

Remember that the lower tractors of the 3056 printer will accommodate paper widths of 12.07 to 40.00 mm (4.75 to 15.75 inches).

Paper Handling Controls

Before you load paper into the 3056, you should be familiar with the controls associated with the handling of paper. If you are installing paper for the first time, locate each control as shown in Figure 7-14 before you continue.

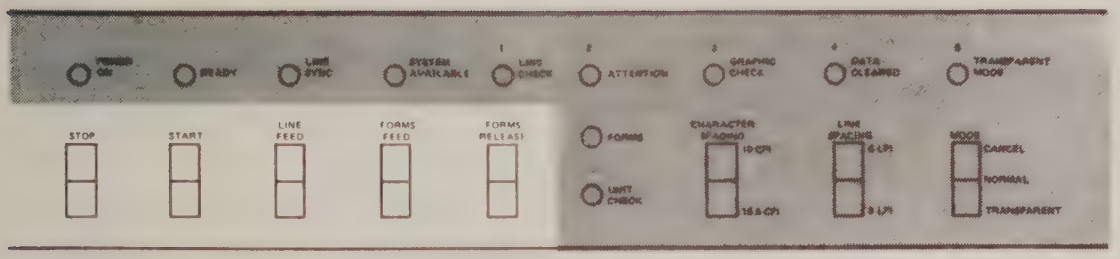


Figure 7-14. Paper Handling Controls

Loading the Paper

☐ 1. Raise the printer cover and set the RUN/LOAD lever to the LOAD position (Figure 7-15).

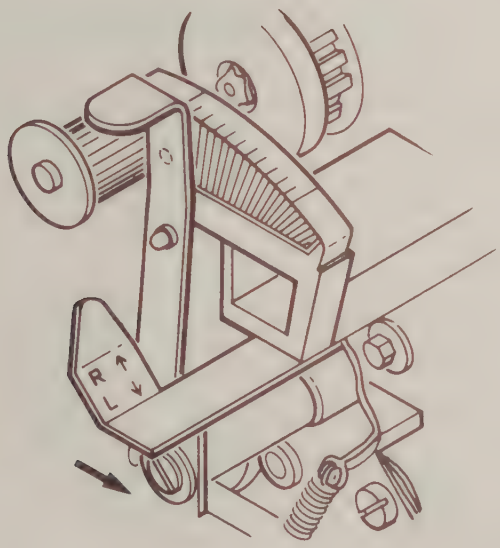


Figure 7-15. Setting the RUN/LOAD Lever

☐ 2. Loosen the knurled knobs on the paper tear-off bar. Slide the bar up, pivot it forward, and secure it in this location (Figure 7-16).

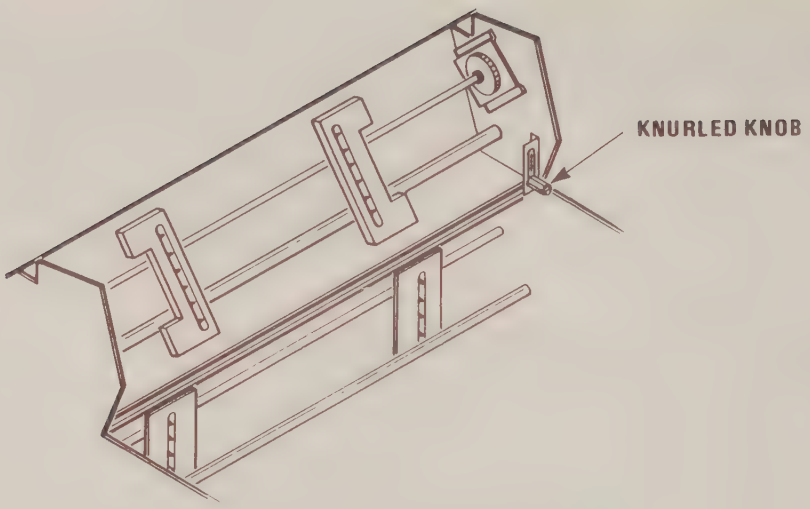


Figure 7-16. Knurled Knobs

☐ 3. Unlatch and position the lower tractors to match the width of the paper supply (Figure 7-17).

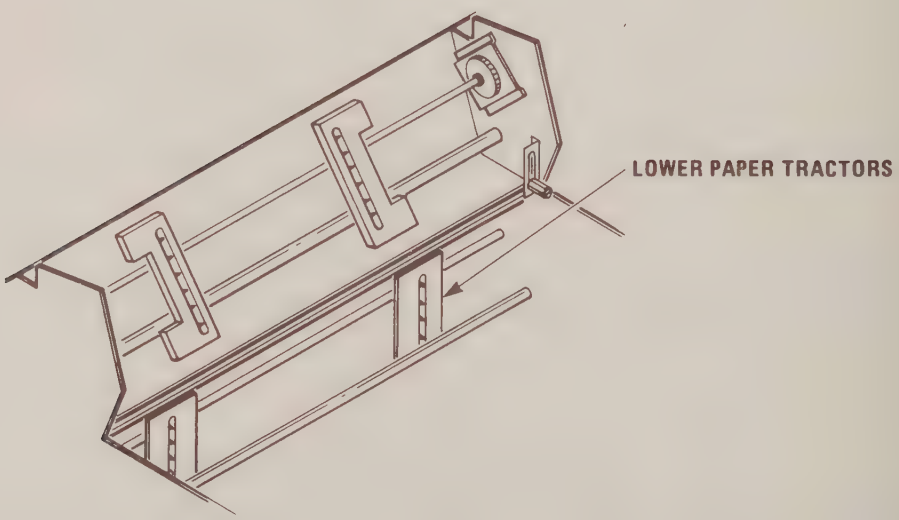


Figure 7-17. Positioning Lower Tractors

☐ 4. Open the lower tractor covers by pulling forward on the tractor cover tabs protruding from the printer bottom (Figure 7-18)

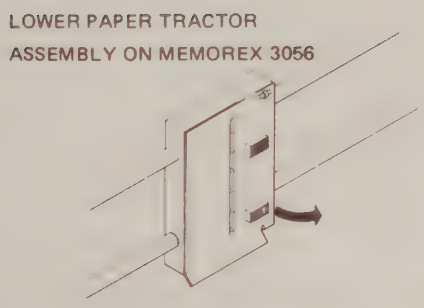


Figure 7-18. Opening Lower Tractors

☐ 5. Insert the paper into the paper slot at the bottom of the printer (Figure 7-19)

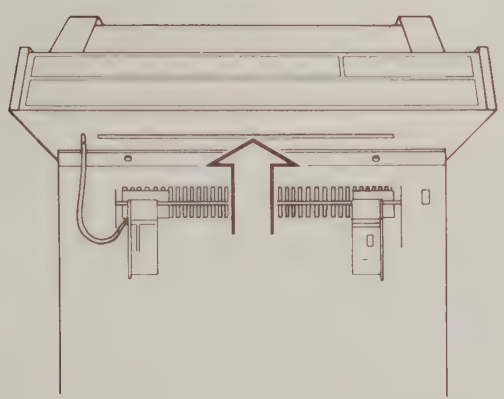


Figure 7-19. Paper Slot

NOTE

When you load single thickness paper into the printer, double over the first form onto the second to provide a double-thickness surface to make it easier to insert the paper into the slot.

☐ 6. Engage the paper pin-feed holes onto the tractor pins (Figure 7-20).

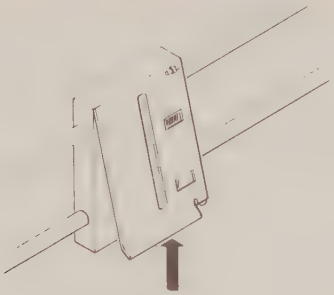


Figure 7-20. Engaging Paper Pin-feed Holes

☐ 7. Close the tractor covers by pushing back on the tractor cover tabs.

☐ 8. Advance the paper with the tractors by rotating either the internal paper advance knob or the advance knob on the right side of the printer.

NOTE

Pull out on the knob while rotating it to cause the lower tractors to advance independently of the upper tractors.

☐ 9. Move both lower tractors horizontally to the left or right for desired paper positioning and latch them in place.

☐ 10. Advance the paper to the upper tractor using the internal paper advance knob.

☐ 11. Lower the tear-off bar into place and tighten the knurled knobs.

☐ 12. Both sets of tractors (upper and lower) should be used when operating the printer in an unattended mode or when printing heavy form sets that are not being torn off. However, you should not use the upper tractors when you wish to print and tear off one form at a time (the lower tractors must always be used). The snap-on paper guides will route printed forms out of the printer during operation. Move the upper tractors out of the way if they are to be bypassed. If the upper tractors are to be used, load paper into them according to the method used for the 2056 printer.

a. Pull out and rotate the internal advance knob.

b. Advance the paper to align the paper pin-feed holes with the upper tractor pins for loading.

c. Adjust the paper tension between the two sets of tractors after the paper is loaded.

☐ 13. Once paper is loaded into the printer, install an ink ribbon cartridge and perform the thickness adjustment explained in Section 7.

☐ 14. Locate the installed paper so that the print head is aligned with the first print line according to the top-of-forms procedure discussed in Section 7.

☐ 15. Align the paper tear-off bar so that it is located as follows:

a. Even with, or slightly above, the perforation line of the paper.

b. Approximately 2mm (1/16 inch) from the printer striker bar.

☐ 16. Hand tighten the knurled knobs to secure the tear-off bar assembly in place.

Ribbon Cartridge Installation for the 3056

Ink ribbon cartridge installation is the same as for the 2056. Pivoting the paper tear bar up and forward will make it easier to install the ink ribbon cartridge.

If neither this job nor other jobs run correctly, perform the following verification test before calling for service. This test determines if the system is operating correctly. If the printer is attached to an IBM System/38, the test must be initiated from an IBM 5251 Display Station or a Memorex 2051 Display Station attached to the same workstation controller. For System/34, the test must be initiated from an IBM 5251 Display Station or a Memorex 2051 Display Station on the same System/34 as the printer. You may need to obtain the logical address of your printer from your system operator.

Matrix Printer Verification Test

1. Set the power switch to on. The Power Diagnostics Test completes in approximately six seconds.

2. Set the MODE switch to NORMAL.

3. Press the printer START switch.

4. If you have an IBM 5251 Display Station, perform the following steps at the Display Console.

   a. If the display station is on the same port as the printer, remove the front access cover of the 5251 Display Station (Figure 8-1).

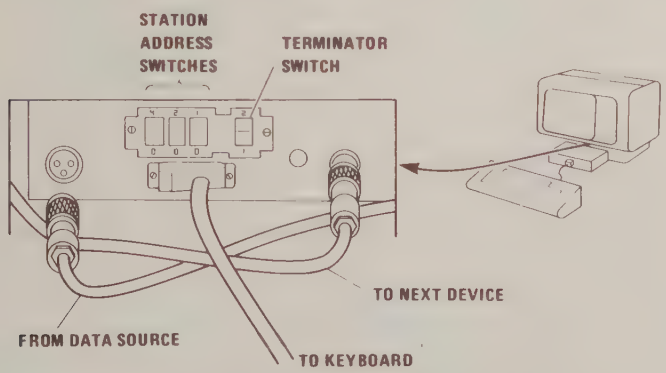


Figure 8-1. IBM 5251 Terminator Switch Location

(1) If this work station does not contain a blue terminator switch (Figure 10-1), it must be located as the last work station on the line.

(2) If this work station contains a blue terminator switch, check that the switch is set to the correct position (set to 1 if it is the last device on the line, or set to 2 if it is an intermediate device).

b. When the Display Station has had the power turned off, the station must be prepared for operation and the power must be turned on. The power-on procedure is as follows:

(1) Set the Status switch to NORMAL.

(2) Set the Power switch to ON.

The Display Station warms up in approximately 30 seconds. The READY light is on and all other lights are off. A cursor marker appears at the right margin of the display opposite the SYSTEM AVAILABLE marking. The cursor appears in the upper left portion of the display.

5. If you have a Memorex 2051 Display Station, check the back of the Display Station to see that the TERMINATOR switch (Figure 8-2) is set to the correct position (set to 1 if it is the last device on the line; set to 2 if it is an intermediate device).

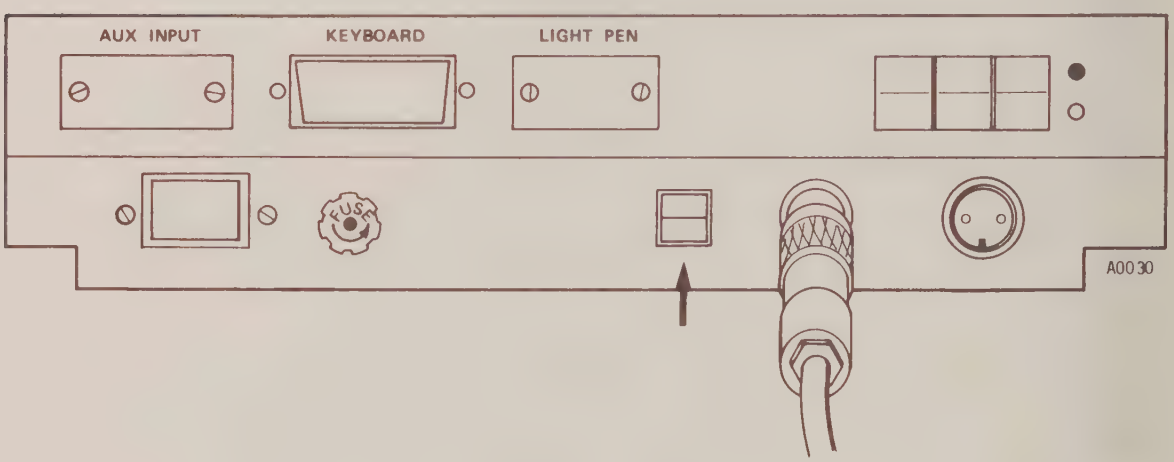


Figure 8-2. Memorex 2051 TERMINATOR Switch Location

6. If your printer is attached to an IBM System/38, go to part c. Otherwise perform the following steps at the Display Station keyboard.

a. Sign off any job that is currently running on the Display Station.

b. Press and hold the Shift key (⇧); then press the SYS REQ/ATTN key. Release the Shift key and press the ENTER/REC ADV key.

c. When the sign-on screen appears, press the CMD key; then press the Test Request key (←) to display the Prime Option Menu (Figure 8-3).

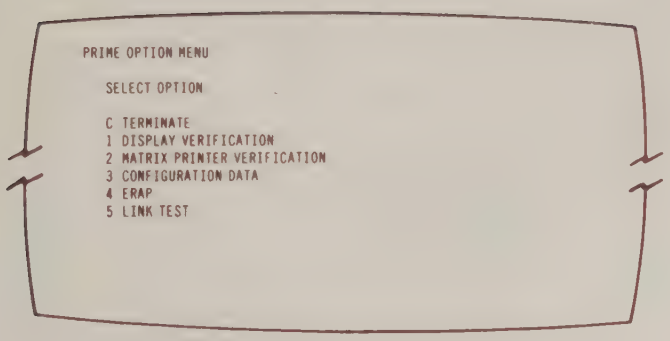


Figure 8-3. Prime Option Menu Display

d. Press "2" for Matrix Printer Verification display (Figure 8-4)

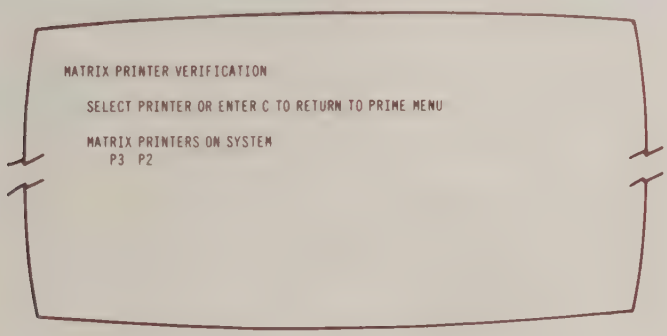


Figure 8-4. "Printer Verification" Test Display

e. Press ENTER.

f. Key in the printer identification code (a letter followed by a number). You may need to obtain this code from your system operator.

g. Press ENTER. If you receive the message similar to the one in Figure 8-5, proceed to the next step. If you don't receive this message, the printer is offline or allocated to another job. In this case, press "C" and the spacebar. Then press the ENTER key to exit. You can attempt the test later when the printer can be accessed.

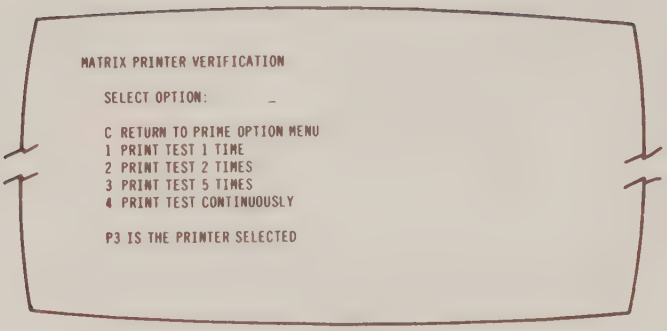

MATRIX PRINTER VERIFICATION
SELECT OPTION: _
C RETURN TO PRIME OPTION MENU
1 PRINT TEST 1 TIME
2 PRINT TEST 2 TIMES
3 PRINT TEST 5 TIMES
4 PRINT TEST CONTINUOUSLY
P3 IS THE PRINTER SELECTED

Figure 8-5. "Printer Selected" Display

h. Enter a number (1 through 4) to select the number of times you want the test to run; then press the ENTER key.

If the printer test executes properly, the message in Figure 8-6 will be displayed. Proceed to step j.

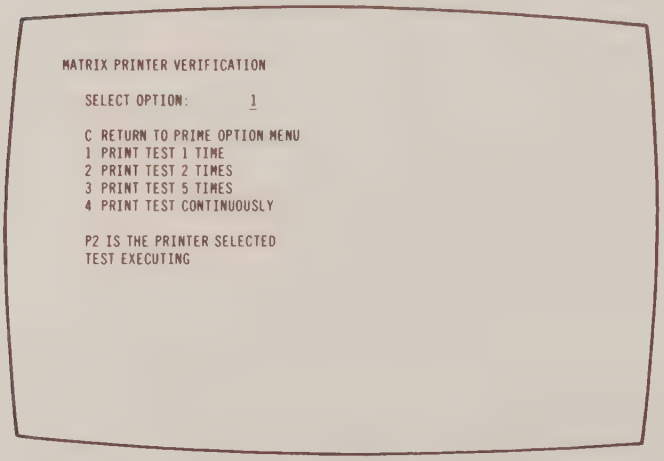

MATRIX PRINTER VERIFICATION
SELECT OPTION: 1
C RETURN TO PRIME OPTION MENU
1 PRINT TEST 1 TIME
2 PRINT TEST 2 TIMES
3 PRINT TEST 5 TIMES
4 PRINT TEST CONTINUOUSLY
P2 IS THE PRINTER SELECTED
TEST EXECUTING

Figure 8-6. "Test Executing" Display

If an error is encountered during the test procedure, a message similar to the one in Figure 8-7 will be displayed. In this case, press "C" followed by ENTER to return to the Prime Option Menu. Refer to the operator console for the type of error and record the information for the service representative if service is required.

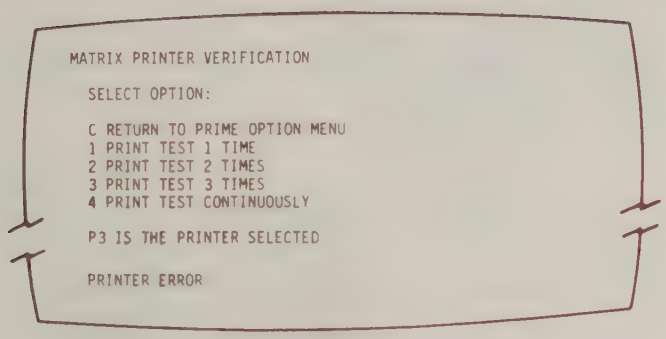

MATRIX PRINTER VERIFICATION
SELECT OPTION:
C RETURN TO PRIME OPTION MENU
1 PRINT TEST 1 TIME
2 PRINT TEST 2 TIMES
3 PRINT TEST 3 TIMES
4 PRINT TEST CONTINUOUSLY
P3 IS THE PRINTER SELECTED
PRINTER ERROR

Figure 8-7. "Printer Error" Display

i. If the test is successful, the screen format in Figure 8-8 will appear and the printout in Figure 8-9 will be received.

j. Press the "C" and then the ENTER/REC ADV key to return to the Prime Option Menu; then repeat to terminate the job.

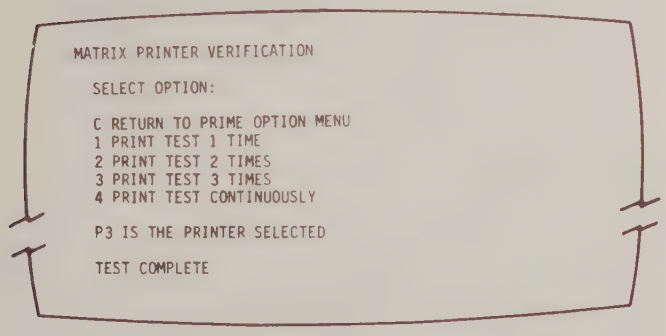

MATRIX PRINTER VERIFICATION
SELECT OPTION:
C RETURN TO PRIME OPTION MENU
1 PRINT TEST 1 TIME
2 PRINT TEST 2 TIMES
3 PRINT TEST 3 TIMES
4 PRINT TEST CONTINUOUSLY
P3 IS THE PRINTER SELECTED
TEST COMPLETE

Figure 8-8. "Test Complete" Display

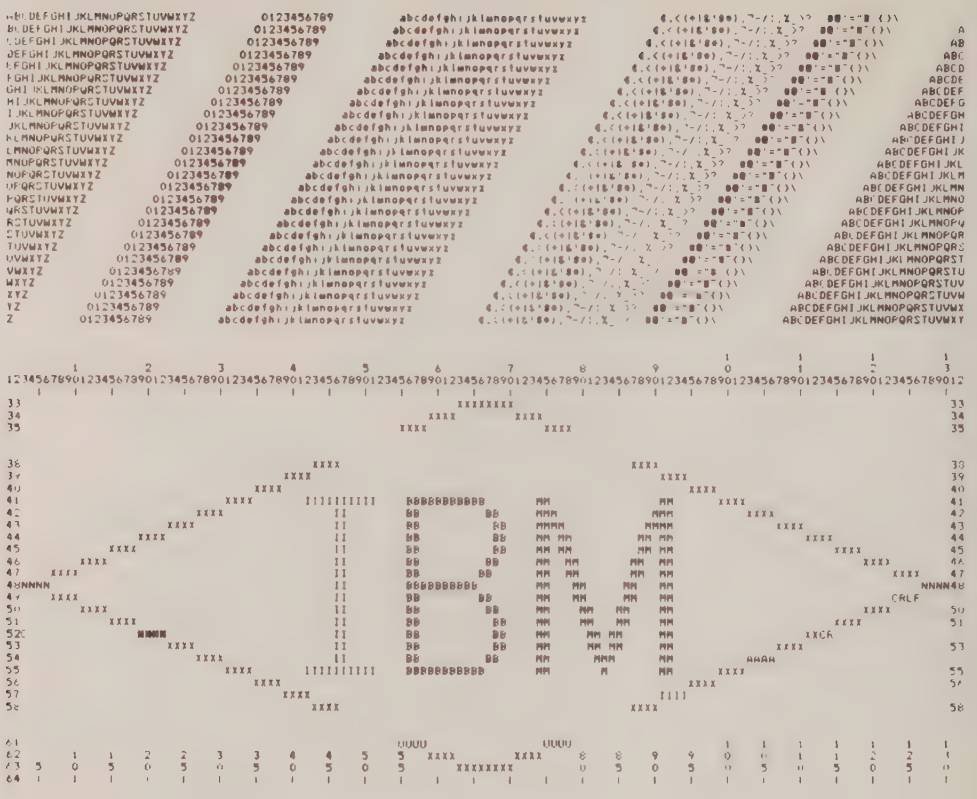


Figure 8-9. Successful Test Patterns

How to Operate the 2056/3056 Printers

9

The maintenance agreement requires the 2056/3056 printers to be operated within a normal office environment. Usage should not exceed 40 print hours per week.

General Information

The 2056/3056 printers are dedicated to operate in a specific system configuration. The switches that you'll use to control the operation of the printers are located on the operator control panel on the front of the printers. Figure 9-1 shows the location of the switches.

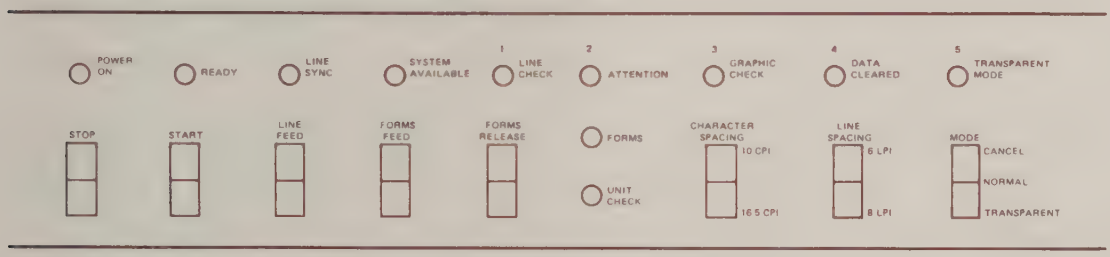


Figure 9-1. 2056/3056 Control Panel Switches

Switch and Light Descriptions

The function of each switch and light, beginning on the left, is described in the following paragraphs. By reading them and studying the illustrations, you will also learn the meaning of each light and how to use each switch.

POWER ON Light

When on, this light tells you that power to the printer is on.

STOP Switch

Press the STOP switch to tell the printer to stop printing.

The READY light goes out.

Any data stored in the buffer, the temporary data storage area, is printed before the not-ready condition is entered.

Press the STOP switch whenever you need to clear an error condition.

READY Light

The READY light indicates that printing can take place.

READY is turned on when you press the START switch and no error conditions exist.

READY is turned off by pressing the STOP switch, by the existence of a printer error condition, or by BEL SCS control character.

To make the printer ready to print again, you must clear any error conditions and then press START.

START Switch

Press START to enable printing if no error conditions exist.

The READY light comes on.

LINE SYNC Light

This light comes on when a SYNC character from the data source is recognized. It goes out if more than 120 msec separate recognizable SYNC characters.

LINE FEED Switch

The paper will advance one line each time the LINE FEED switch is pressed if the printer is not ready and is not executing the off-line test.

SYSTEM AVAILABLE Light

This indicator turns on when the printer recognizes the assigned device address as transmitted by the data source.

The indicator turns off if more than 120 msec of time separate recognizable SYNC characters.

FORMS FEED Switch

Press this switch to advance the paper through the printer one form length each time the switch is pressed. You can advance the paper only if the printer is ready (START switch has been pressed) and is not executing the off-line test. (If no print job has been performed recently, the FORMS FEED switch acts as a line feed. The system keeps track of the type of form being used and tells the printer how to space for each type of form. If, when you press FORMS FEED, only one

line advances, then no form length has been loaded by the system. Start printing from the system, stop the printer, and proceed with the proper forms adjustment. Then restart printing.)

LINE CHECK Indicator

When this light is on, it indicates an error in the data stream. The light is turned off when the data source acknowledges the parity error detection by the printer.

FORMS RELEASE Switch

Press this switch to turn off power to the paper advance servo motor so that the paper can be positioned manually with the paper advancement knob. This switch is only active when the printer is not ready and is not executing the off-line test. See the procedure for positioning the paper in Section 7.

ATTENTION Indicator

When this light is on, it indicates that manual intervention is required. The light comes on when the GRAPHIC CHECK, UNIT CHECK, or FORMS indicator is turned on. It is also turned on by a BEL SCS control character in the data stream. The printer's audible alarm is sounded whenever the ATTENTION indicator is turned on.

FORMS Indicator

This light indicates a detected paper out condition. It will also be turned on if a paper low condition exists when the START switch is pressed. The ATTENTION indicator is also turned on.

UNIT CHECK Indicator

This light is turned on when a printer error is detected. The ATTENTION indicator is also turned on.

GRAPHIC CHECK Indicator

This light indicates the reception of an unprintable character which enables a programmed stop printing condition. The ATTENTION indicator will also be turned on.

CHARACTER SPACING Switch

This switch allows you to select the horizontal character spacing for printing. Press the top of the switch to select 10 characters per inch. Press the bottom of the switch to select 16 characters per inch. Be sure that you are in STOP mode before using this switch.

DATA CLEARED Indicator

This light is turned on by the data source to indicate that a problem has been encountered and that all print buffers have been cleared of data. Any job in progress must be restarted.

When the problem is cleared, press the STOP switch to turn off the indicator. Press the START switch to restart the job.

LINE SPACING Switch

This switch allows you to select one of two options for vertical print line spacing. Press the top of the switch to select 6 lines per inch. Press the bottom of the switch to select 8 lines per inch. You must be in STOP mode to use this switch.

TRANSPARENT MODE Indicator

When on, this light indicates that the Transparent Mode has been selected.

MODE Switch

The MODE switch has three possible settings:

1. CANCEL - This setting causes a CANCEL REQUEST signal to be sent to the data source when the top portion of the switch is pressed. This switch is not active when any test mode is active.

2. NORMAL - This setting selects a normal (non-transparent) printer condition when the middle portion of the switch is pressed.

3. TRANSPARENT - This setting selects a printer Transparent condition which is activated when the START switch is pressed. The printer must be not ready and not executing the off-line test when the TRANSPARENT switch is selected.

Mode switching is permitted only when in STOP mode.

Transparent Mode Operation

The Transparent mode of operation is entered by control panel switch settings. When this mode of operation is active, the hexadecimal code for each byte of input data is printed directly above the printed data character. Non-printable data characters will be printed as hyphens when transparency mode is entered from the printer test. Non-printable data characters are left blank when transparency mode is selected and data is received from the computer.

Mode Entry

Enter the Transparent mode by the following procedure:

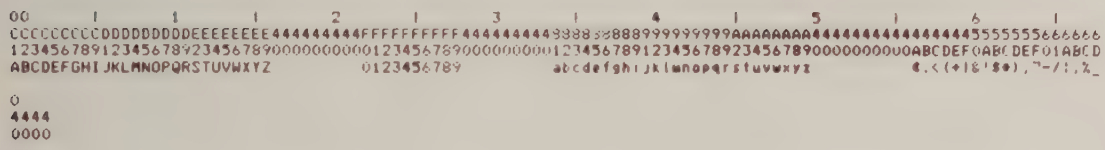
1. Be certain the present print job is complete.

2. Press the STOP switch.

3. Set the MODE switch on the control panel to TRANSPARENT.

4. Press the START switch.

5. The Transparent mode is active. Information from the data source will be printed as follows:



The Transparent mode can be entered during a print job using the following procedure:

1. Set the CANCEL switch.
2. Wait until the printing ceases. The following indicators should be on:
   - POWER ON
   - READY
   - LINE SYNC
   - SYSTEM AVAILABLE
3. Press the STOP switch. (Ready indicator goes off.)
4. Set the MODE switch on the control panel to TRANSPARENT.
5. Press the START switch.
6. The printer will print the following message: (WORK STATION I.D.) CANCEL PRESSED ON THIS TERMINAL.
7. Refer to the IBM system manual SC21-5159. In that manual, find the message numbered SYS-6369. Follow the instructions contained there to take option 0.

Mode Exit

Exit the Transparent mode as follows:

1. Press the STOP switch.
2. Set the MODE switch on the control panel to NORMAL.
3. Press the START switch.

Audible Alarm

The 2056/3056 printers are equipped with an audible alarm that is sounded upon system command and during printer fault conditions. The audio level of the tone can be adjusted by using the volume control located at the inside top left edge of the control panel (Figure 9-2). Raise the top cover of the printer to gain access to the control.

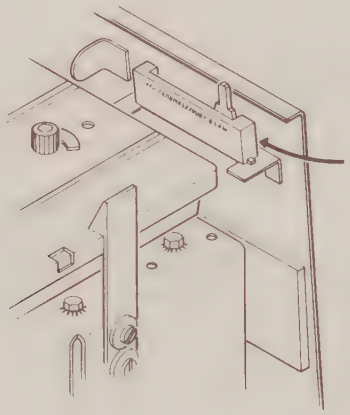


Figure 9-2. Audible Alarm Volume Control

Paper Low and Paper Out

Two paper status conditions can be detected by the printer. Low paper is detected when approximately 27.94 cm (11 inches) of paper supply remains. Out of paper conditon is detected when the paper supply is depleted.

No data will be enabled for printing beyond the physical end of the last form. When the printer requires your attention because of this condition, the ATTENTION and FORMS indicators will light and the audible alarm will sound.

CAUTION

Incorrect loading of the form can cause an End of Last Form to be incorrectly sensed. To avoid possible damage to the print head caused by printing taking place when no paper is between the print head and the platen, proper positioning of the form is essential.

Locating Top of Form

1. If the printer is printing a job, press the STOP button; otherwise, proceed to the next step.

2. Press the FORMS FEED button.

3. Press and hold the FORMS RELEASE while you manually advance the paper until the form being used is located with the first line under the print head print nozzle.

4. Release the FORMS RELEASE button. The physical and logical location of the top of form for sensing a low paper condition has been coordinated.

5. If the job in progress is to be continued, press the START button.

NOTE

The START switch is inhibited after a low paper condition is detected.

Forms Stacking Tray

A wire frame tray and a wire tray mounting shelf are available to collect and stack fanfold paper as it exits the printer. The shelf attaches to the pedestal and the tray sits on the shelf. They can be used to stack paper loaded either from the front or from the rear of the printer. It is important that the tray be grounded to avoid paper-induced static discharge that can cause malfunctions in the printer.

What to Do if You Have a Printer Problem 10

Most of the problems you may encounter during normal operation of the 2056/3056 printers are referred to as operational problems, which can be fixed by the operator quite easily. For more serious problems, the assistance of a service representative may be required.

What's the Problem?

The Problem Recovery procedures described in this section are designed to help you determine whether the problem is an operational or a machine problem. Machine problems require repair service.

Trouble reports are located at the end of this section. Always fill out a report of a printer failure for reference by the service representative.

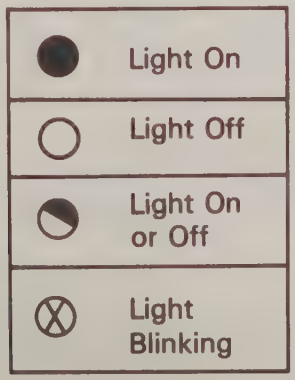
CAUTION

Turn the power off immediately if smoke, excessive heat, unusual odors, or noises are detected. Unplug the power cable, remove the paper from the printer, and call the service representative.

Save the printout that was produced just prior to and at the time of the printer failure. The service representative can use this to help determine the cause of the failure.

How to Use the Problem Recovery Procedures

Problem determination is based on the ON and/or OFF state of the control panel indicator lights. The illustrations in this section depicting the various indicator light on/off conditions are keyed according to the following legend:

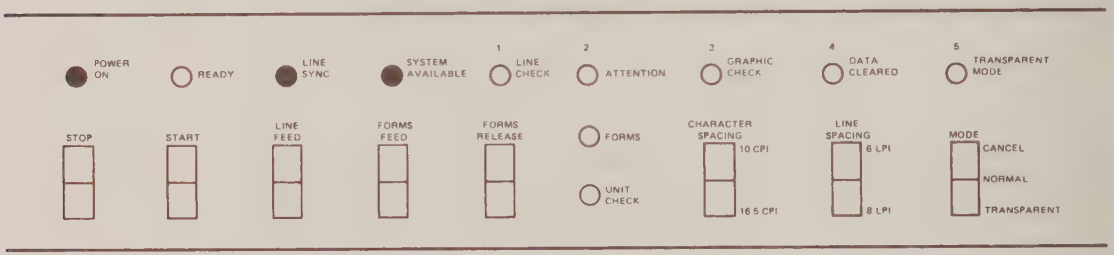


Power On Test

When the printer power switch is turned on, the printer performs a power-on diagnostics test. The test lasts approximately six seconds. If there are no problems, the diagnostics cause the control panel lights to turn on and off according to the following sequence:

1. All lights turn on.
2. All lights (except the POWER ON light) turn off.
3. The READY light and lights 1 through 5 turn on.
4. The READY light and lights 1 through 5 turn off sequentially from left to right.

After the power-on diagnostics are completed, the control panel indcator lights are left in the state illustrated below:



Problem Determination Sequence

To determine the problem area, perform the sequential question and answer routine detailed below, and branch to the particular paragraph referred to by the routine. Following Step 9 in the routine you will find a series of numbered paragraphs which give detailed procedures for handling the problems.

1. Did the problem occur when the power switch was turned on?

   YES - Branch to paragraph [1].

   NO - Proceed to Step 2 below.

2. Is the ATTENTION indicator light turned on?

   YES - Is the FORMS indicator light also on?

   YES - Branch to paragraph [2A].

   NO - Branch to paragraph [2B].

NO - Proceed to Step 3 below.

3. Do the following control panel light conditions exist?

   LINE SYNC - On
   SYSTEM AVAILABLE - On
   LINE CHECK - OFF

   NO - Branch to paragraph [3].

   YES - Proceed to Step 4 below.

4. Press the control panel START switch. Does READY light turn on?

   NO - Branch to paragraph [4].

   YES - Proceed to Step 5 below.

5. Is there a print quality problem (uneven or light printing)?

   YES - Branch to paragraph [5].

   NO - Proceed to Step 6 below.

6. Was an error code displayed on the system console?

   YES - Branch to paragraph [6].

   NO - Proceed to Step 7 below.

7. Is the TRANSPARENT MODE light turned on, or is the printout in transparent format?

   YES - Branch to paragraph [7].

   NO - Proceed to Step 8 below.

8. Run the Matrix Printer Verification Test which is discussed in section 8. Did the Verification Test execute successfully?

   NO - Cycle the power switch off and on to cause the Power-on Test to exercise. Does the message on the terminal indicate that the Power-on Test exercised successfully?

      YES - Branch to paragraph [1].

      NO - Fill out a trouble report; then contact the service representative and report a "Printer Verification Test failure."

   YES - Proceed to Step 9.

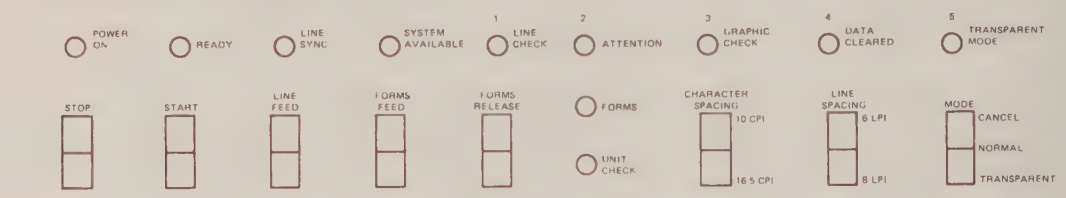
9. If operational recovery is still not possible, describe the problem to your service representative or system operator as appropriate.

Problem Determination Procedures

In using the following procedures, locate the illustration of the control panel whose indicator light status matches the one on your printer.

1 Power On Problems

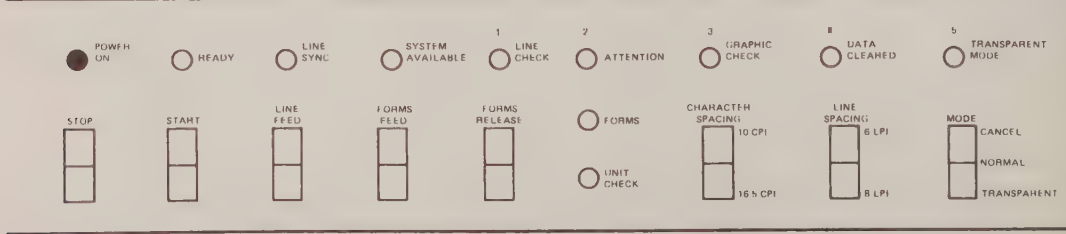
Does the control panel indicator light status match the illustration below?



What to Do

1. Turn the power off.
2. Check to see that the printer is plugged into a grounded outlet with voltage. (You can check the outlet by plugging another electrical device that you know is working into the outlet.)
3. Turn the power on.
4. Check the status of the control panel indicators.
5. Return to normal procedures if the problem was corrected.
6. If the trouble persists, contact your service representative and report all lights off.

Does the control panel indicator light status match the illustration below?

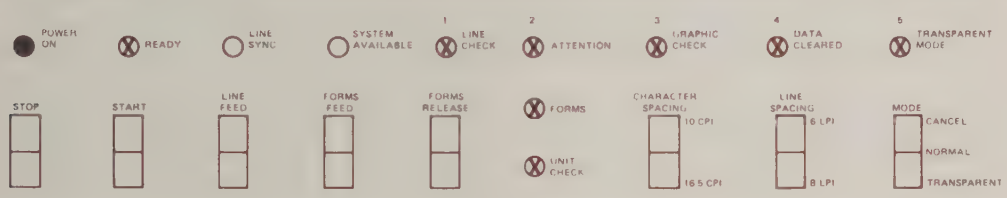


1 (Continued)

What to Do

1. Turn the power off, then turn it on again. Wait approximately six seconds. If the same light is still on, turn the power off and on several times, waiting approximately six seconds each time after you turn the power on.
2. Return to normal procedures if the problem is corrected.
3. If the problem persists, fill out a trouble report; then contact your service representative and report "all lights off except POWER ON."

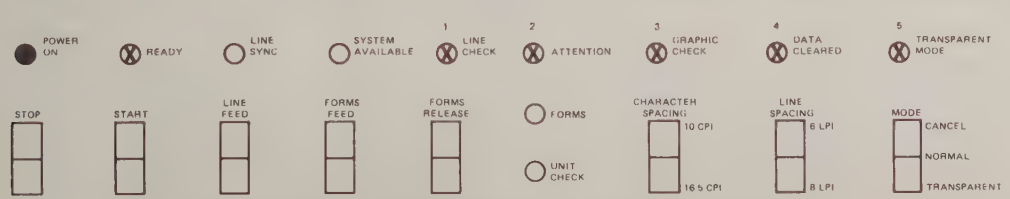
Does the control panel indicator light status match the illustration below?



What to Do

1. Turn the power off, then turn it on again. Wait approximately six seconds. If the same lights are still on/off/blinking, turn the power on and off several times, waiting approximately six seconds each time the power is turned on.
2. Return to normal procedures if the problem is corrected.
3. If the problem persists, fill out a trouble report; then contact your service representative and report lights that are on or blinking.

Does the control panel indicator light status match the illustration below?



1 (Continued)

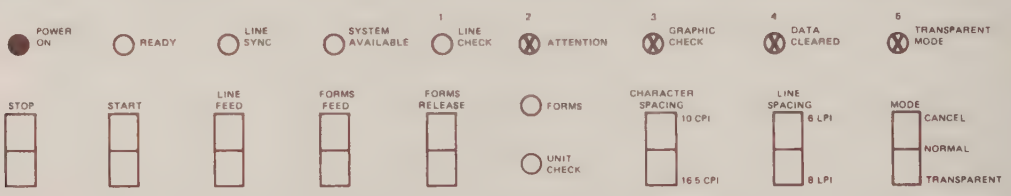
What to Do

1. Turn the power off, then turn it on again. Wait approximately six seconds. If the same lights are still on/off/blinking, turn the power off and on several times, waiting approximately six seconds each time the power is turned on.

2. Return to normal procedures if the problem is corrected.

3. If the problem persists, fill out a trouble report and contact your service representative. Report lights that are on or blinking.

Does the control panel indicator light status match the illustration below?



What to Do

1. Check the printer ADDRESS switches. Be sure that they are not set to address 7, which is an invalid address. Verify that the switches are set to the correct address.

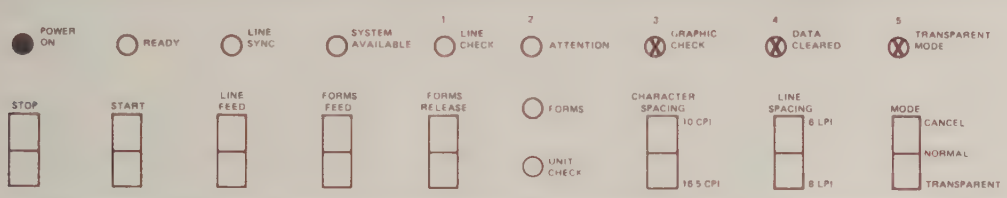
2. Turn the power off, then turn it on again. Wait approximately six seconds. If the same lights are still on or off, turn the power off and on several times, waiting approximately six seconds each time the power is turned on.

3. Return to normal procedures if the problem is corrected.

4. If the problem persists, fill out a trouble report and contact your service representative. Report lights that are on or blinking.

1 (Continued)

Does the control panel indicator light status match the illustration below?



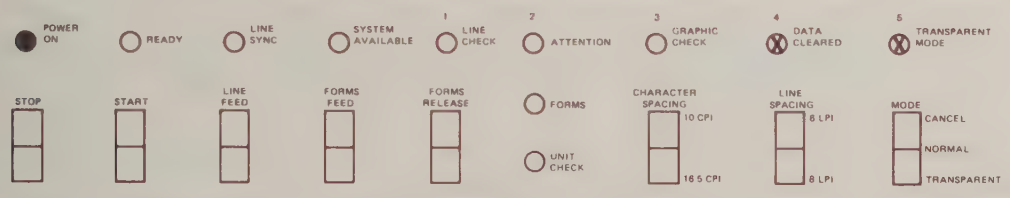
What to Do

1. Turn the power off, then turn it on again. Wait approximately six seconds. If the same lights are still on/off/blinking, turn the power off and on several times, waiting approximately six seconds each time the power is turned on.

2. Return to normal procedures if the problem was corrected.

3. If the problem persists, fill out a trouble report and contact your service representative. Report lights that are on or blinking.

Does the control panel indicator light status match the illustration below?



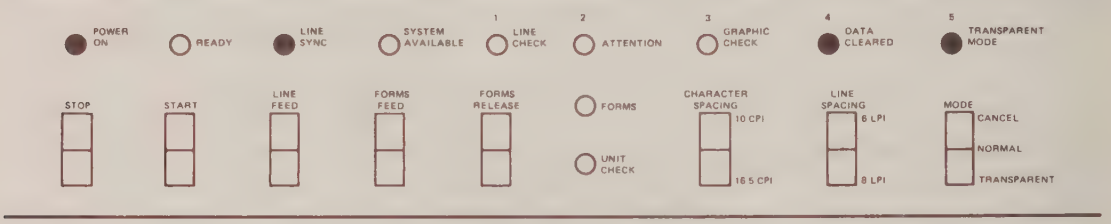
What to Do

1. Check the twinaxial cable to see that it is connected between the printer and the data source.

2. Contact the system operator to determine if the system is operational. Ensure that the stations between the printer and the system have cables connected. Also ensure that the TERMINATOR switch is set to position 2 on the other stations that are between the printer and the system. The system operator will determine if the service representative should be called.

1 (Continued)

Does the control panel indicator light status match the illustration below?



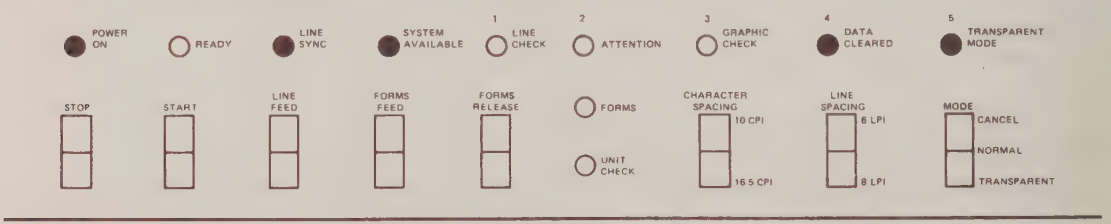
What to Do

1. Verify that the ADDRESS switches are set to the correct address. Verify that the TERMINATOR switch is in the correct position.

2. If the switches are set properly and the problem persists, contact your system operator and report "system not available."

3. Your system operator will determine the source of the problem and will call the service representative if it is necessary.

Does the control panel indicator light status match the illustration below?



What to Do

1. Turn the power off, then turn it on again. Wait approximately six seconds. If the same lights are still on/off, turn the power on and off several times, waiting approximately six seconds each time the power is turned on.

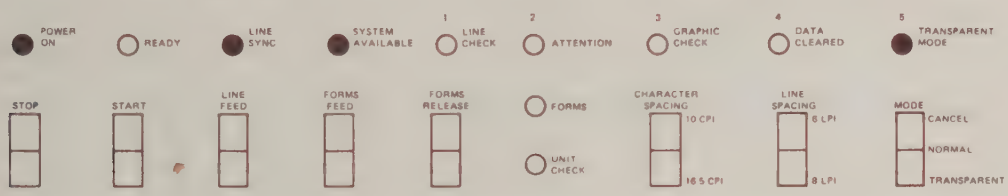
2. If the problem persists, contact your system operator and verify that the system is operating properly.

3. If the system is operating properly and your printer is still not

1 (Continued)

functional, call your service representative and report the lights that are on.

Does the control panel indicator light status match the illustration below?



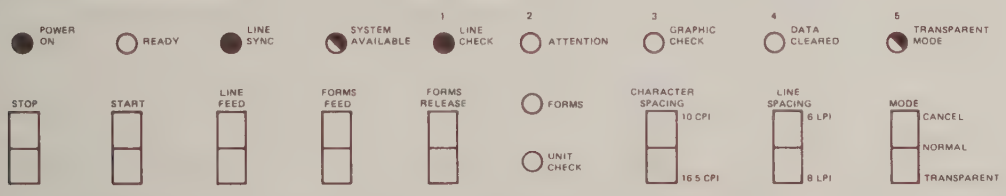
What to Do

1. Turn the power off, then turn it on again. Wait approximately six seconds. If the same lights are still on/off, turn the power on and off several times, waiting approximately six seconds each time the power is turned on.

2. If the problem persists, contact your system operator and verify that the system is operating properly.

3. If the system is operating properly and your printer is still not functional, fill out a trouble report and call your service representatative. Report the lights that are on.

Does the control panel indicator light status match the illustration below?



What to Do

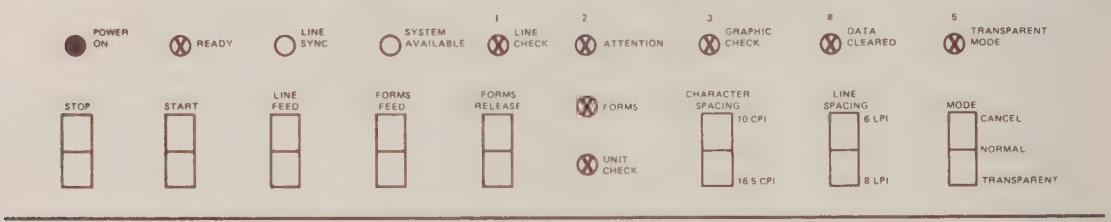
1. Ensure that the TERMINATOR switch is in the proper position.

2. If the LINE CHECK light is on or if it flickers often, call your

1 (Continued)

system operator and report "line checks." The system operator will determine the source of the problem and call the service representative if necessary.

Does the control panel indicator light status match the illustration below?



What to Do?

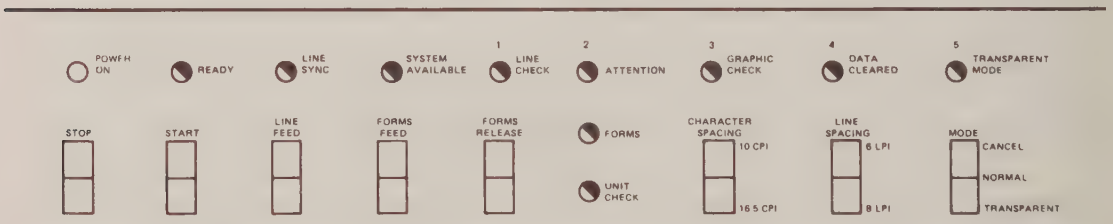
1. Ensure that the auxiliary control panel TEST switch (located under the cover at the top right of the printer) is set to NORMAL.

2. Turn the power off, then turn it on again. Wait approximately six seconds. If the same lights are still on/off, turn the power on and off several times, waiting approximately six seconds each time the power is turned on.

3. Return to normal procedures if the problem is corrected.

4. If the problem persists, fill out a trouble report and contact your service representative. Report "power on diagnostic sequence continues to occur."

Does the control panel indicator light status match the illustration below?



1 (Continued)

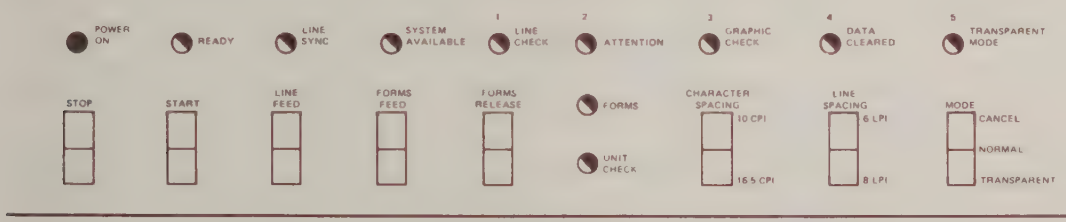
What to Do

1. Turn the power off, then turn it on again. Wait approximately six seconds. If the same lights are on/off, turn the power on and off several times, waiting approximately six seconds each time the power is turned on.

2. Return to normal procedures if the problem is corrected.

3. If the problem persists, fill out a trouble report and contact your service representative. Report "POWER ON light off." Also give the error code displayed at the operator console.

Does the control panel indicator light status match the illustration below?



What to Do

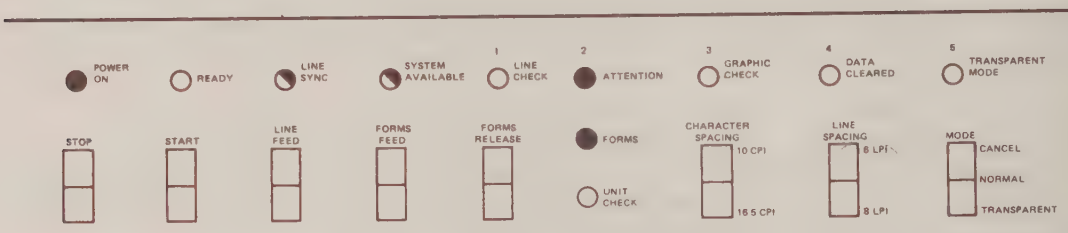
1. Turn the power off, then turn it on again. Wait approximately six seconds. If the same lights are still on/off, turn the power on and off several times, waiting approximately six seconds each time the power is turned on.

2. Return to normal procedures if the problem is corrected.

3. If the problem persists, fill out a trouble report and contact your service representative. Report the lights that are on.

2A ATTENTION Light On and FORMS Light On; Audible Alarm Sounding

Does the control panel indicator light status match the illustration below?

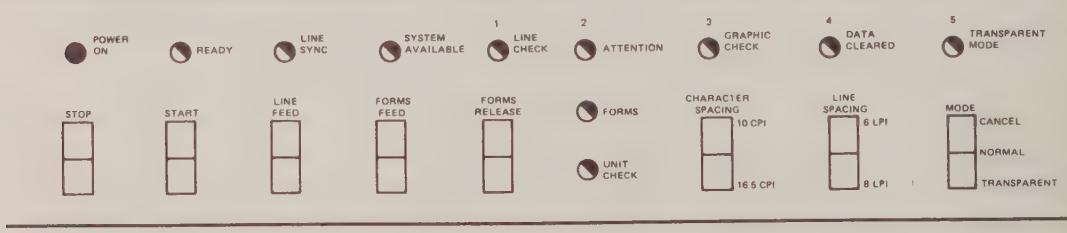


(PLUS AUDIBLE ALARM SOUNDS)

What to Do (Out of Forms)

1. Press STOP to turn off FORMS light.
2. Press FORMS FEED switch.
3. Load new forms (refer to Section 7 of this manual for detailed procedure).
4. Press START to resume printing. If the problem persists (FORMS light stays on), check the forms path. Also be sure that the RUN/LOAD lever is in the RUN position.
5. If the problem cannot be corrected, fill out a trouble report and contact your service representative. Report your problem and the lights that are on.

Does the control panel indicator light status match the illustration below?



What to Do

1. Turn the power off, then turn it on again. Wait approximately six

2A (Continued)

seconds. If the same lights are still on/off, turn the power on and off several times, waiting approximately six seconds each time the power is turned on.

2. If the problem persists, return to paragraph 1 .

How to Find Causes of Forms Jams

1. Check the position of the RUN/LOAD lever. The lever should be toward the front of the printer when you are printing.

2. Check the position of the paper supply. The box or stack of forms should be positioned so that the forms feed squarely into the bottom of the printer.

3. Check to see that the forms are feeding properly. If the forms are binding, remove them from the box.

4. Check to see that the forms are inserted and aligned properly.

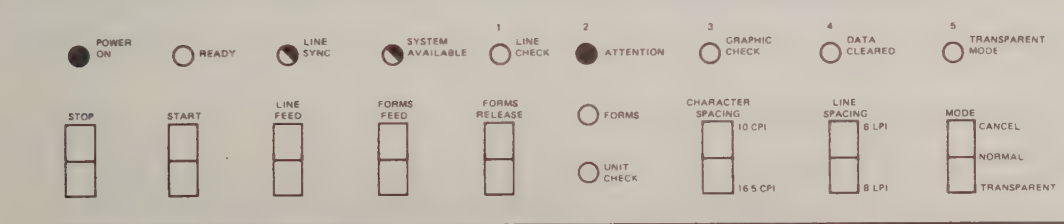
5. Maximum forms thickness allowable is .064 cm (.025 inch). Thicker forms can cause form feeding problems.

6. Improperly crimped forms can cause jams or feeding problems.

7. Check the FORMS THICKNESS ADJUSTMENT setting. If the print head is too close to the platen (the low setting on the label), **forms jam and print head damage can occur.**

2B ATTENTION Light On and FORMS Light Off

Does the control panel indicator light status match the illustration below?



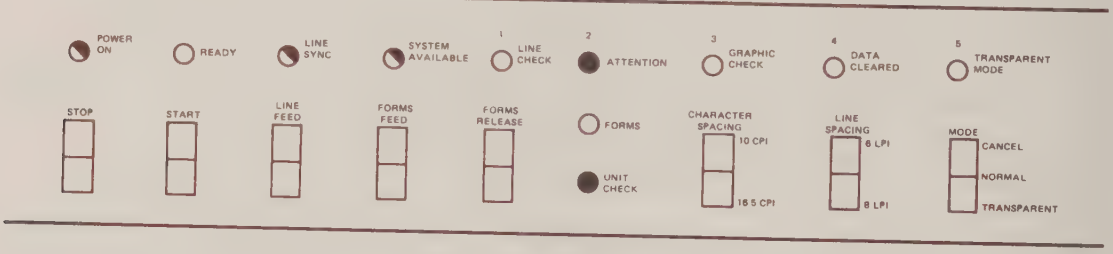
2B (Continued)

What to Do

1. Check with your system operator for the reason(s) for the ATTENTION light being on.
2. Press STOP to turn off the ATTENTION light.
3. Press START to resume printing.

Printer Malfunction—Operator Restart

Does the control panel indicator light status match the illustration below?



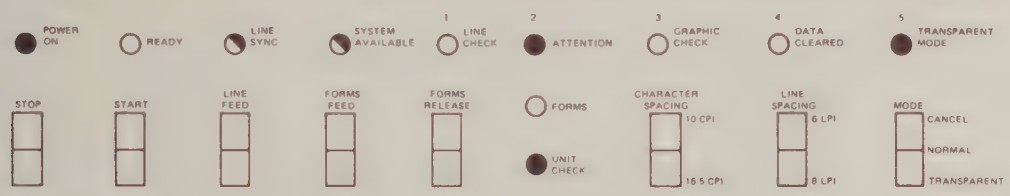
What to Do

1. Visually check for any obvious problems such as paper misfeeding or the print head binding.
2. Press STOP to turn off the error lights.
3. Check the forms alignment.
4. Press START to resume printing.
5. Repeat this procedure several times if necessary. If you cannot cause the printer to recover from this condition, turn the power off and then turn it back on. Wait six seconds. If the problem persists, fill out a trouble report and record the lights that are on; then contact your service representative, and report the problem.

Printer Malfunction—System Restart

Does the control panel indicator light status match the illustration below?

2B (Continued)

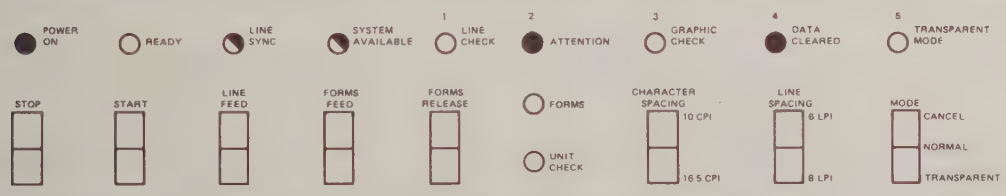


What to Do

1. Visually check for any obvious problems such as paper misfeeding or the print head binding.
2. Press STOP to turn off the error lights.
3. Perform the paper alignment procedures in Section 7.
4. Move the paper to the start of a new page by using the FORM FEED switch. Adjust the form manually to the start of a new page, if required.
5. Repeat this procedure several times if necessary. If you cannot cause the printer to recover from this condition, turn the power off and then turn it back on. Wait six seconds. If the problem persists, fill out a trouble report and record the lights that are on; then contact your service representative and report the problem.

Unprintable Character (Graphic Check)—Operator Restart

Does the control panel indicator light status match the illustration below?



What to Do?

1. Press the STOP switch to turn off error lights.

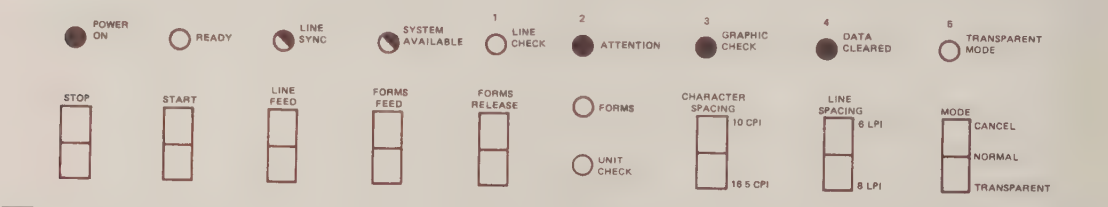
2B (Continued)

2. Review local data processing procedures.

3. Press the START switch to resume printing.

Unprintable Character (Graphic Check)—System Restart

Does the control panel indicator light status match the illustration below?



What to Do

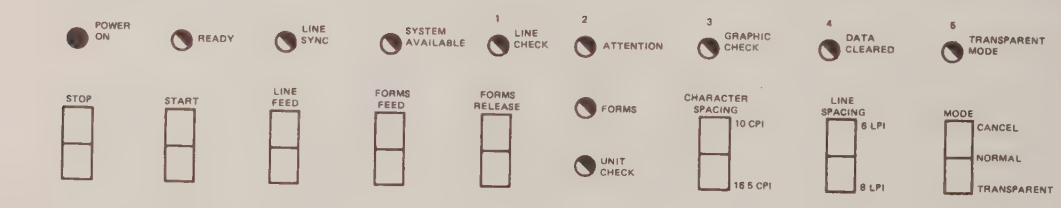
1. Press the STOP switch to turn off error lights.

2 Press the FORMS FEED switch to move the paper to the next page. Adjust the forms manually to start of a new page if necessary.

3. Check the forms alignment.

4. Press the START switch to restart the job.

Does the control panel indicator light status match the illustration below?



2B (Continued)

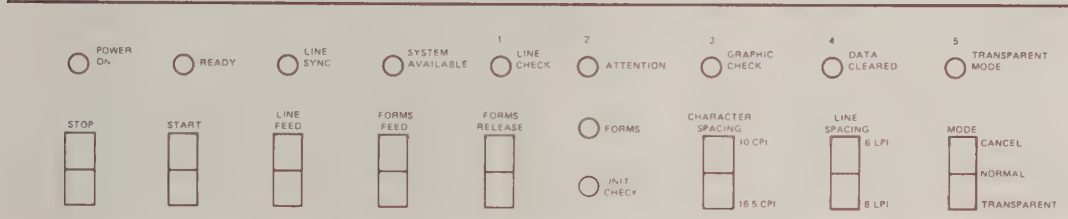
What to Do

1. Turn the power off, then turn it on again. Wait approximately six seconds. If the same lights are still on/off, turn the power on and off several times, waiting approximately six seconds each time the power is turned on.

2. If problems persist, return to paragraph numbered 1 .

3 Line Sync—System Available—Line Check

Does the control panel indicator light status match the illustration below?



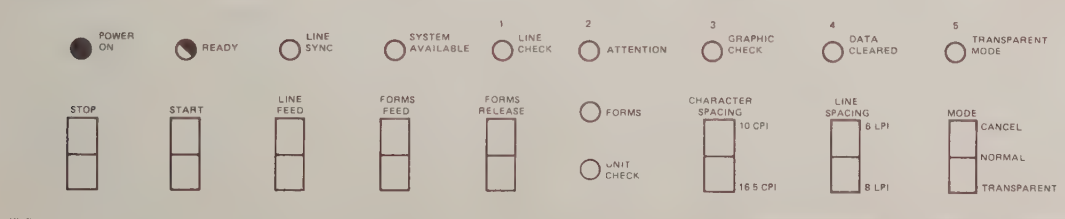
What to Do

1. Check to see that the TEST switch on the auxiliary control panel is set to NORMAL (center position).

2. Check to see that the system cable from the data source is connected to the terminal.

3. Turn the power off, then turn it on again. Wait six seconds. If the power-on diagnostics fail, refer to the paragraph numbered 1 .

Does the control panel indicator light status match the illustration below?

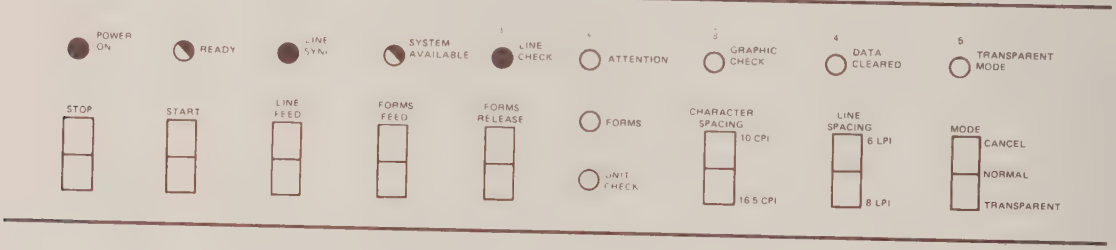


3 (Continued)

What to Do

1. Check to see that the TEST switch on the auxiliary control panel is set to NORMAL (center position).
2. Check to see that the system cable from the data source is connected to the terminal.
3. Turn the power off, then turn it on again. Wait six seconds. If the power-on diagnostics fail, refer to the paragraph numbered 1.

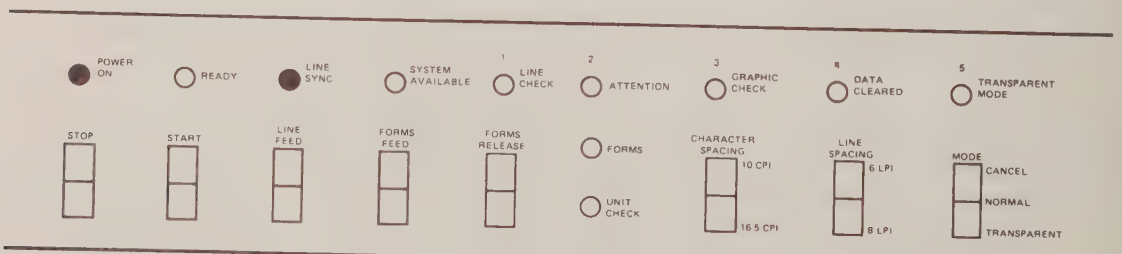
Does the control panel indicator light status match the illustration below?



What to Do

1. Ensure that the TERMINATOR switch is in the proper position.
2. If the LINE CHECK light is on or if it flickers often, call your system operataor and report "line checks." Your system operator will determine the source of the problem and call the service representative if necessary.

Does the control panel indicator light status match the illustration below?



3 (Continued)

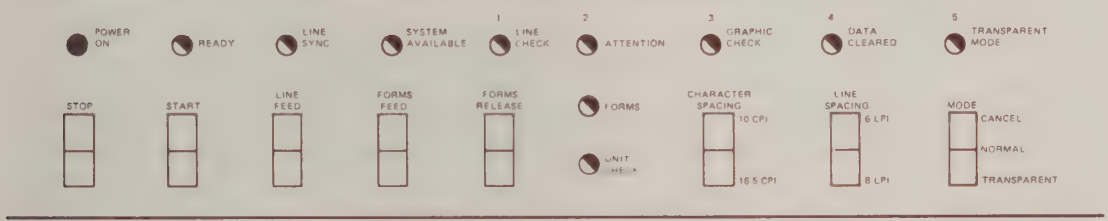
What to Do

1. Be sure that the TERMINATOR switch is in the correct position and that the ADDRESS switches are set to the correct address.

2. Refer to Section 3 in this manual for the correct TERMINATOR and ADDRESS switch setup instructions.

3. If the problem persists, contact your system operator and report "system not available."

Does the control panel indicator light status match the illustration below?



What to Do

1. Turn the power off, then turn it on again. Wait approximately six seconds. If the same lights are still on/off, turn the power on and off several times, waiting approximately six seconds each time the power is turned on.

2. If power-on diagnostics fail or if the problem persists, refer to paragraph 1 .

4 Ready Light Failed to Turn On

What to Do

1. Press the STOP switch.
2. Press the START switch. The READY light should turn on.
3. If the READY light turns on, return to normal operating procedures; otherwise, continue with Step 4.
4. Record lights that are on.
5. Turn power off, then turn it back on. Wait six seconds. Press the START switch again. If the recovery was successful, save the information for the service representative for possible aid on intermittent problems.
6. If the problem persists, refer to paragraph 1 .
7. If the READY light still fails to turn on, fill out a trouble report; then contact your service representative and report "failing indications."

5 Print Quality

Some causes of uneven or light printing are:

1. Incorrect setting of the Forms Thickness Adjustment lever.
2. Worn or dry ribbon.

See Section 6, "How to Load and Change the Ribbon," for additional information. If you cannot correct the problem, save a copy of the faulty printout, fill out a trouble report, and contact your service representative.

6 Error Codes

The following error codes, which will be used mainly by the service representative to locate hardware errors, appear on the system console in positions 77 through 80:

CODE	CAUSE	WHAT TO DO
0200 0203	No Response Timeout System Detected Line Check	1. Check that system cable is properly connected. 2. Ensure that ADDRESS switches are not set to 7. 3. Ensure, or have system operator insure, that other stations on same cable are properly connected and have TERMINATOR switch set correctly. 4. Turn power off, then on, wait six seconds.
0220 0222 0224	Invalid Command or ID Input Queue or Storage Overrun Invalid Activate	Report problem to service representative.
0226 0228 0229	Graphic Check Invalid SCS Control Code Invalid SCS Parameter	Contact the application programmer and report problem.
0230 thru 0238	Hardware Error (ATTENTION and UNIT CHECK lights should be on.)	Refer to question number 2 in the problem determination sequence.*
0250	End of Forms (ATTENTION and FORMS lights should be on.)	1. Press STOP switch to turn off the forms light. 2. Press FORMS FEED switch. 3. Load New forms (refer to Section 7 for a detailed procedure). 4. Press START switch to resume printing.*
0251	Not Ready	Press START switch to make printer ready.*
0290 0291	Even-odd Timeout Hardware Busy Timeout	Turn power off, then on, and wait six seconds.

* If problem persists, fill out a trouble report and contact service representative to report error code.

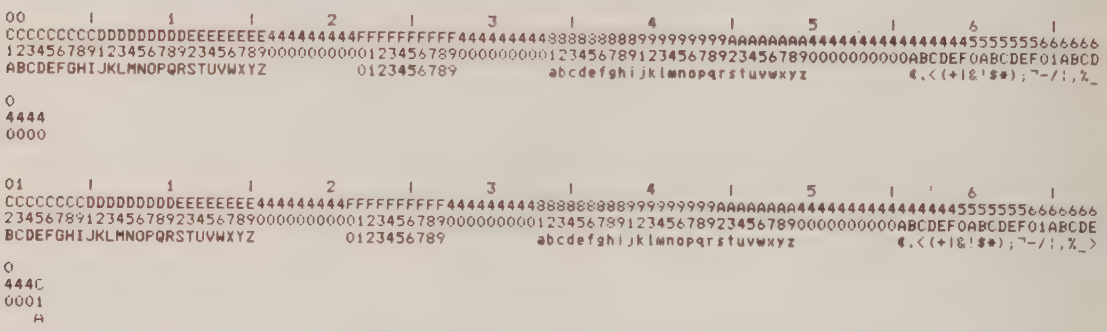
7 Transparent Mode

You can place your printer into Transparent mode and remove it from Transparent mode by using the following procedure:

How to Enter Transparent Mode

1. Set MODE switch to TRANSPARENT position.
2. Press START switch. (READY and TRANSPARENT mode lights will come on.)

The following graphic is a sample of a Transparent mode printout.



How to Exit Transparent Mode

1. To exit Transparent mode after obtaining your printout, set the MODE switch to the NORMAL position and then press the STOP switch. (This action should reset Transparent mode.)
2. If the exit from the Transparent mode was unsuccessful, turn the power off, then turn it on again. Wait six seconds. Reposition the paper for the job. If this step is successful, make the printer ready and restart the job. If the printer remains in the Transparent mode, proceed to Step 3.
3. If the printer remains in Transparent mode when the power is turned on, refer to paragraph 1 .
4. If the problem persists, fill out a trouble report and contact your service representative.

Glossary G

address switches: three switches located on the cable-through box that are set to the system address assigned to the printer to identify that printer to the system.

bi-directional printing: time-saving feature that allows the print head to move and print either forward or backward.

cable through (cable thru): feature that allows several terminals to be attached daisy-chain style to a particular port.

data source: display station or central processing unit that supplies data to the printer.

data stream: all data transmitted through a channel in a single read or write operation.

slew rate: the rate at which paper can pass through the printer.

spacing rate: the speed at which the printhead moves over blank spaces.

system: A configuration of equipment, including the central processing unit, controllers, display stations, and printers, and the programs necessary to execute customer jobs.

throughput: the productivity of a printer; for example, the characters per second it can print, the inches per second of slew rate, and the spacing rate.

tractor: device that moves the paper throught the feed path of the printer.

twinaxial cable: a cable composed of two insulated conductors laid parallel, having a common cover and making cable-through and system attachment possible.

vernier: device used to obtain fine adjustment.

workstation controller: device used to control the operation of one or more attached display stations and printers. It synchronizes the operation of the display stations with the system.

Operator Maintenance Procedures

General Information

Maintaining your printer will consist mainly of replenishing the paper supply and replacing the ink ribbon cartridge. Along with these responsibilities, you should establish a periodic cleaning routine.

It is a good practice to periodically check to see that the ribbon guide rollers turn freely. This may be done whenever the ink ribbon guide cartridge is replaced. You should also periodically listen during printer operation to be sure that the cooling fan is running.

Paper Supply and Ink Cartridge Replacement

Procedures for these maintenance requirements are detailed in Section 6 and Section 7.

Cleaning the Printer

Keeping the printer clean minimizes any major cleaning effort. It is important to keep foreign matter, especially liquid, away from the printer.

WARNING

Disconnect the power cord before performing any cleaning operation.

Clean the exterior of the printer with a damp cloth or sponge. A domestic type of cleaner can be used to remove stubborn dirt.

Clean the interior of the printer with a vacuum cleaner or a gentle stream of air. Dislodge dust from hard to reach areas with a soft-bristle brush.

CAUTION

Do not wipe the white grease off the run/load cam (at the end of the carriage rail nearest the striker bar) when you are cleaning the interior of the printer.

Never clean the carriage rail. Printer failure can result from carriage rail lubrication.

Printer Features

B

1st HEX DIGIT	2nd HEX DIGIT															
	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0																
1																
2																
3																
4	SP										¢	.	<	(	+	|
5	&										!	$	*	)	;	¬
6	-	/									¦	,	%	_	>	?
7											:	#	@	'	=	"
8		a	b	c	d	e	f	g	h	i						
9		j	k	l	m	n	o	p	q	r						▒
A		~	s	t	u	v	w	x	y	z						
B																
C	{	A	B	C	D	E	F	G	H	I						
D	}	J	K	L	M	N	O	P	Q	R						
E	\		S	T	U	V	W	X	Y	Z						
F	0	1	2	3	4	5	6	7	8	9						

Figure B-1. United States and Canada EBCDIC Code Character Set

Printer Characteristics

- 200 characters per second print rate at 6 or 8 lines per inch
- 600 characters per second spacing rate across non-printing position on the line
- 20 inches per second paper slew (50.8 cm per second)
- Bi-directional printing
- 9-wire matrix printhead
- Forms thickness control for printing up to 9-part forms
- Accepts 7.08 cm (2 inches) to 41.91 cm (16.5 inches) wide pinfeed paper for the 2056 or 12.07 cm (4.75 inches) to 40.00 cm (15.75 inches) for the 3056.

- Horizontal and vertical vernier paper position adjustment
- Six-pin tractor engagement
- Paper-out sensor
- 132 column printline
- Choice of 10 character per inch (2.54 cm) or 16.5 character per inch (2.54 cm) printing, which can be selected by using a switch on the control panel.
- 10 million character, operator-replaceable ribbon cartridge with ribbon re-inker that extends ribbon life to 25 million characters
- Low Noise - meets ISO NR-60 acoustic noise standard
- Adjustable audible alarm level
- Power on diagnostics with LED indicators

Environmental Characteristics

Temperature:

Operating:	0o C (+32o F) to 44o C (+110o F)
Storage:	-40o C (-40o F) to 71o C (+160o F)
Relative Humidity:	10-95% operating and storage (non-condensing)

Altitude:

Operating:	0 - 3660 meters (0 - 12,000 feet) above sea level
Storage:	0 - 15,240 meters (0 - 50,000 feet) above sea level

Power Consumption:

Non-Printing:	120 watts
Printing:	200 watts

Heat Dissipation:

Non-Printing:	410 Btu
Printing:	683 Btu

System Compatibility:

The Memorex 2056 and 3056 printers are compatible with the IBM 5250 Terminal System.

Printer and Pedestal Size and Weight at Installation:

Size: (W x H x D) - 71.32 cm x 34.03 cm x 54.86 cm (28.08 in. x 39.2 in. x 21.06 in.) (including paper rack)

Weight: Printer - 34 kg (75 lb.)
Pedestal - 18 kg (40 lb.)

Refer to Figure C-1 for possible configurations of your printer with System/34 or System/38. As the figure illustrates, multiple devices can be connected to the same I/O cable string using cable-through, which consists of two twinaxial cable connector, three device address switches, and a terminator switch. The last device on the cable-through system must provide line termination to maintain correct line impedance matching.

Before connecting your printer to the system you will need to know the following information:

a. Is your printer a local or remote device? Will it connect directly to the host system I/O port or to a remote terminal cluster controller port?

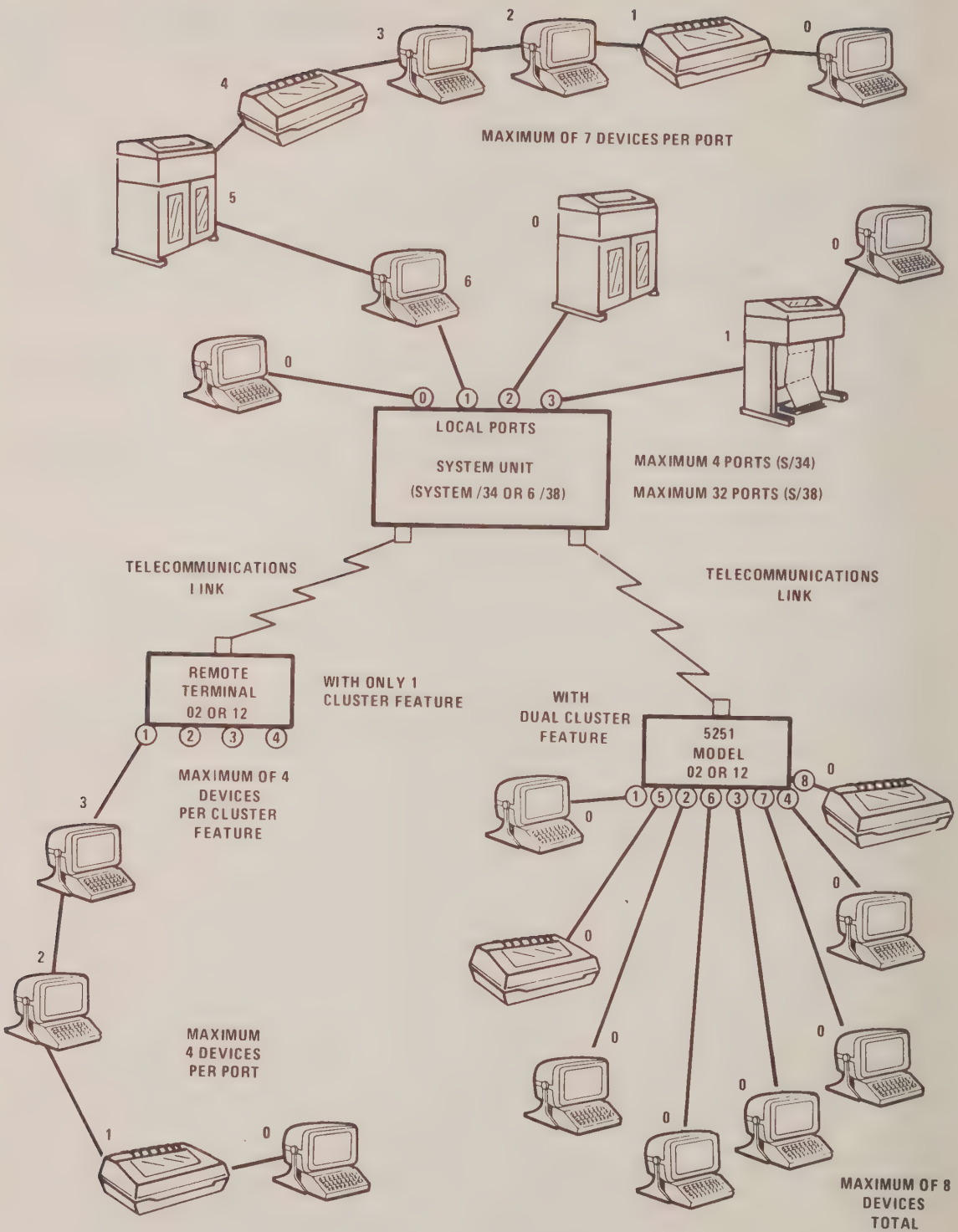
b. What is the printer address?

c. Is your printer the last device on the cable or cable-through feature?

d. What is the port or cluster controller port number at which the I/O cable originates?

e. What is the unit address of your printer? This is a software reference designator identifying the port controller and workstation combination that is required during the execution of the system configuration task.

f. What is the logical I.D.? This is a symbolic label assigned to identify each device by name. It is needed during execution of the system configuration task and all job tasks or tests.


MAXIMUM OF 7 DEVICES PER PORT
LOCAL PORTS
SYSTEM UNIT
(SYSTEM /34 OR 6 /38)
MAXIMUM 4 PORTS (S/34)
MAXIMUM 32 PORTS (S/38)
TELECOMMUNICATIONS LINK
TELECOMMUNICATIONS LINK
REMOTE TERMINAL 02 OR 12
WITH ONLY 1 CLUSTER FEATURE
MAXIMUM OF 4 DEVICES PER CLUSTER FEATURE
WITH DUAL CLUSTER FEATURE
5251 MODEL 02 OR 12
MAXIMUM 4 DEVICES PER PORT
MAXIMUM OF 8 DEVICES TOTAL

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MEMOREX 2056/3056 MATRIX PRINTER
OPERATOR'S TROUBLE REPORT

INSTRUCTIONS: If a problem occurs, record the lights on the control panel below. Use panel Step 1 for problems which occur during operation. Use panel Step 2 for problems during power on diagnostics. If the control panel lights are normal, record trouble information at step 3. Save this Trouble Report and any printouts for service representative.

Unit Identification_____
Date and Time_____
Reported by_____

Trouble Description:

Step 1
While Operating (after power-on diagnostics complete)
ERROR CODE (from system operator)

Step 2
During Power-On Diagnostics

Step 3

( ) Print Quality
( ) Noticed smoke,heat, or unusual odor
( ) Cooling fan not blowing air
( ) Form feeding improperly
( ) Ribbon bunching or jamming
( ) Other (describe below; also describe what tests you ran and whether successful or unsuccessful)

Test Results and Other Troubles:

READER'S COMMENTS

2056/3056 Matrix Printer User's Guide

Please send us your opinions; they will help us produce better publications for your use. The author will carefully review your comments. If you have technical questions or if you want to order manuals or other Memorex publications, please contact the Memorex branch office nearest you.

I rate this book:

As a learning aid...

POOR GOOD

As a reference source...

POOR GOOD

As to length...

POOR GOOD

The writing is...

POOR GOOD

Specific comments on content and format:

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Address_____

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